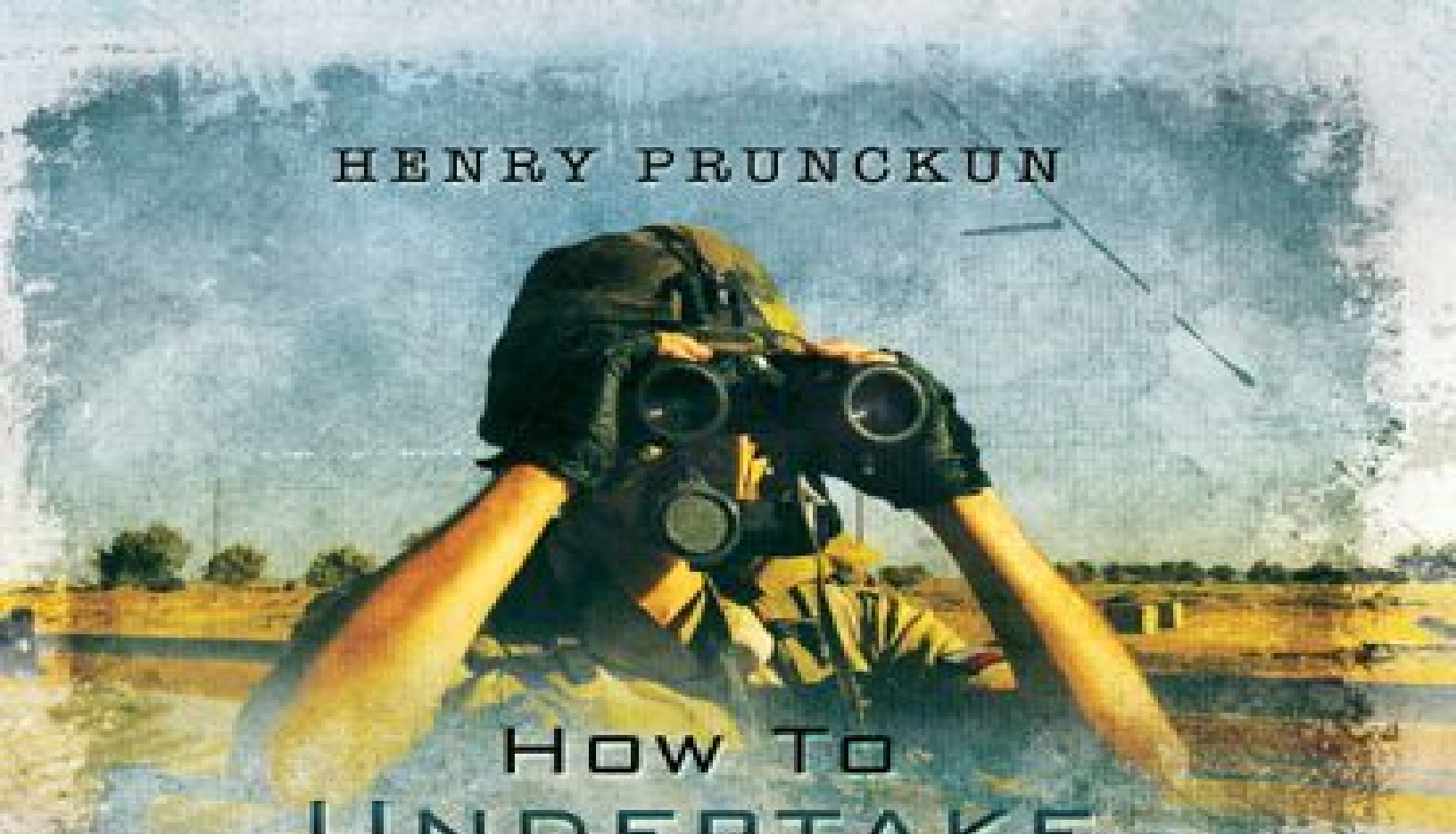
HENRY PRUNCKUN



How To Undertake Surveillance & Reconnaissance

From a Civilian and Military Perspective

To Naomi

How to Undertake Surveillance and Reconnaissance

From a Civilian and Military Perspective

Henry Prunckun PhD

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Abbreviations

The following abbreviations will be found in this book. For convenience, their meanings are listed here.

CARVER	criticality, accessibility, recuperability, vulnerability, effect, recognizability
GOTWA	going, others, time, what, actions
CTR	close target reconnaissance
EPS	Executive Protection Service
IR	intelligence requirements
LED	light emitting diode
LRRP	long range reconnaissance patrols
METT-TC	mission, enemy, troops, terrain, time, civilian
OCOKA	observation, cover, obstacles, key, avenues
OP	observation post
OPFOR	opposing force
PI	private investigator
PPE	personal protective equipment
RIF	reconnaissance in force
RV	rendezvous point

SAD-CHALET	survey and disseminate, causalities, hazards, access/egress, location, emergency, type
SALUTE	size, activity, location, unit, time, equipment
SEAL	sea, air, land
SLR	single-lens reflex
SMEAC	situation, mission, execution, administration, command (and signals)
U2	a single-engine, high-altitude reconnaissance aircraft
UAV	unmanned aerial vehicle
US	United States
USSR	formerly the Union of the Soviet Socialist Republics
VIP	very important person

Chapter One

Introduction

People make plans every day, dozens of plans, from the mundane to the elaborate. Some plans involve excitement, others just ordinary events. But at some time, everyone will have a plan that must be carried out that involves some hazard or danger, whether it is planning an overseas trip to a country that is experiencing social or political instability, or a venture closer to home that involves some personal peril. Perhaps rescuing a runaway teenage son from a group of no-hopers that he has fallen in with, or rescuing an adult sister from her abusive alcoholic husband. One of the most notable trades is scouting for the filmmaking industry. These scouts search for locations that are suitable for the filming of cinematic productions.

If you are in a military, law enforcement, security or intelligence role, then planning may entail establishing a point for surveillance, an observation post (or outpost), so you can collect information relating to say, an alleged insurance fraud (if you are a private investigator), or to be able direct officers who are executing a warrant (law enforcement), or any number of offensive operations if you are in the military. Where conditions limit visual observation, an outpost may be considered to be a *listening post*.

Bodyguarding is another area where reconnaissance is regularly used. This occupation is also known as *close personal protection* or *executive protection*, which are the now popular terms for bodyguarding.[1] These terms were coined in the 1970s ‘When the US Secret Service created a new division called Executive Protection Service (EPS) to protect embassies and

visiting foreign dignitaries.' Whenever the bodyguard's client travels beyond their home, some form of reconnaissance needs to be conducted in order to ensure that there are no surprises awaiting along the way. One of this occupation's staple activities is planning routes to and from a destination, as well as identifying potential ambush locations along the way, and escape routes if things go wrong. The common element in all these planning scenarios is the need for information before any action is taken.

It is safe to say that you cannot plan effectively if information is lacking. To gain information about the physical environment in which you plan to carry out your mission, or the people who occupy that space, you need to obtain this data through the process known as *reconnaissance*. The term *reconnaissance* refers to scouting areas beyond those that are controlled by friendly forces. The purpose of this is to analyze the information and then to disseminate the findings to decision makers.

The word *reconnaissance* originates from the French, but has been incorporated into our English language like many other foreign words and phrases.[2] It has had a strong association with military units, but over recent times has been used in other circles and is regularly employed by people in various walks of life for planning, whether they recognize this or not. Take for instance the case in August 2012 where an Australian Defence Force reconnaissance team landed on Manus Island, a small island 800 kilometers (about 500 miles) north of Port Moresby in the Bismarck Sea. Belonging to the nation of Papua New Guinea, Manus Island was being scouted as a detention center to hold and process those arriving in Australia illegally via people-smuggling boats. The Australian government wanted to know what needed to be done to repair an old and decaying detention center in order to use the facilities.[3]

What this book offers is a systemic way to learn about what reconnaissance is, and what it is not; and in doing so, how you can exploit its tradecraft to help you plan and carry out your own strategies for action, whether civilian or military. In a world of growing complexity, you cannot afford to learn by trial and error or guesswork. This book will step you through the background to reconnaissance, describe its use, and explain how it is conducted. It will also explain essential surveillance equipment and some basic scout training that are needed to carry out a successful

mission, as well as to plan for one. Moreover, it discusses how you can foil the reconnaissance efforts of others who may be planning against you. The end of each chapter contains lists of key words and phrases, study questions and a few learning activities to assist you with your study of surveillance and reconnaissance.

The need for such a book stems from many real-life examples where people have to perform reconnaissance without training and without any knowledge of what is involved in doing it. In this regard, this book could be considered a rapid course for teaching the essential techniques involved in this unusual occupation. It is a clear and straightforward text for police, private investigators, sheriff's officers, bailiffs, marshals, bail enforcement agents, bodyguards, security guards, as well as soldiers, sailors, marines and airmen. In this sense it could be considered a 'black book' because it not only contains, but explains the mysteries of reconnaissance.

As such, it can be used by people who may not be employed in these occupations but still have a need to plan a risky operation of some sort, as pointed out in the examples at the beginning of this introduction; or it can be used by those who might be thinking about undertaking a job that involves reconnaissance as a way of understanding what is involved. Furthermore, it can be read by those who are just interested in the tradecraft and want to know more about this fascinating occupation.

This book therefore provides the skills to deploy quickly. Its theme is 'learning by doing' because arguably, experience is an operative's best teacher. Nevertheless, operatives need to understand the theoretical base for action and this is where the book comes in. It is intended to give a new scout the head start needed to get acquainted with reconnaissance, and as a result, be able to learn more effectively once deployed on the job.

It should be pointed out that this book is *not* a text on combat shooting, firearms, martial arts, weapons or unique equipment that is associated with certain types of surveillance activities; nor is it about the specialized skills that some scouts might be called upon to use, such as sniping, techniques for clearing occupied buildings, setting up ambushes, and so on. Those are the topics for other specialist books. This book is about the *essential elements* of reconnaissance tradecraft.

> ‘We are not fit to lead an army on the march unless we are familiar with the face of the country – its mountains and forests, its pitfalls and precipices, its marshes and swamps.’*

History is littered with examples where having knowledge about the opposition has led to victory. Unfortunately, history also contains a large number of examples where a lack of knowledge has led to defeat. By way of example, in 1968–69 a group of anti-Communist mercenaries planned an offensive against Fidel Castro (code named Operation Sword). The mission was to launch a raid that would free anti-Castro prisoners held in Cuban jails.

The mercenaries ‘Were to meet in Guadalajara, Mexico, but when they arrived the hotel they were supposed to stay in had been torn down.’ Although this was not a decisive blow to the operation, it was indicative that the operation ‘did not do that well in the execution phase’ which finally ended in the arrest of the group by the British Army and the capture of their boat and all equipment. Poor or non-existent reconnaissance is likely to have been the source of the advice to stay in a hotel that did not exist, and likewise it could be said for their boat hitting a reef on its way to Cuba that then led to the British military throwing them in jail and seizing their boat.[4]

In order to obtain the information that you need to know so that the necessary planning can be undertaken, you first need to understand what reconnaissance is.

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* Sun Tzu, translated from the Chinese by Lionel Giles (1910), chapter VII ‘Manoeuvring,’ paragraph 13, in *The Art of War* (Mumbai, India: Wilco Books, 2009).

Chapter Two

What is Reconnaissance?

It is easy to say that you need information for planning and that a reconnaissance needs to be conducted, but what is reconnaissance? As with many concepts there are various definitions. Invariably, each definition reflects a particular viewpoint, often emphasising an aspect of the concept that is germane to the setting, its use or the organization employing it. For instance, a dictionary definition often reflects a common generic usage, such as that found in *The American Heritage Dictionary of the English Language* which describes the term as 'The process or activity to reconnoitring.' And the term *reconnoitring* is defined in the same text as 'To make a preliminary inspection of.'[5]

The only qualification that needs to be made of these definitions is that these activities are conducted ahead of the main force. Because a reconnaissance is not conducted as an activity in itself, it is a preliminary activity ahead of a larger group or bigger activity. If however, a follow-up force is not involved, as in the case of a reconnaissance in cyber-space, and the activity is say, an attack on an opposition's computer facilities via the Internet, then it could be described as an activity ahead of the action-in-chief.

A 'target' can be described as a person, a group, an organization, or an area to be reconnoitered.

The US Army has defined reconnaissance as 'A mission to obtain by visual observation or other detection methods, about the activities and

resources of an enemy or potential enemy, or about the meteorological, hydrographical or geographical characteristics of a particular area.'[6] This definition goes beyond the mere description of the activity – to make a preliminary inspection, to include what could be argued to be the means and methods of carrying it out. By adding these qualifiers, the US Army has customized the definition to suit its particular usage, but for the purpose of this rapid course in reconnaissance we will stay with the generic definition, as the application of the activity will depend on how you, the reader, will apply it.

CONTRACTIONS FOR THE TERM RECONNAISSANCE

Those who practise the craft of reconnaissance have shortened the word for a number of reasons. In the main, it is easier to say, but those in the know understand the contraction and in a way using it is a way of demonstrating or emphasizing that you are part of the group that is skilled in the craft. Many other occupation groups do the same; engineers, medical practitioners, lawyers, and so on.

Contractions should not be confused with abbreviations and acronyms. For instance, an abbreviation for doctor is Dr and the acronym for chief executive officer is CEO. With regard to reconnaissance, the shortening is simply limiting the spoken word from reconnaissance to *recon* or *recce*.

The term *recon* is generally used by Americans whereas the term *recce* is used by those in Commonwealth countries of Australia, Britain, Canada, and New Zealand. *Recon* is pronounced 'ree-con' and *recce* is pronounced 'wreck-ee.' Having said that, there is no clear demarcation by country of use. For instance, in Commonwealth countries both terms are used, though *recon* tends to be used as a noun and *recce* used as a verb. Take for instance these examples where recce is used as a verb: 'Let's do a recce first,' or 'Let's recce the area.' An example of *recon* being used as a noun and *recce* as a verb in the same sentence could be as follows: 'Get the recon team to do a recce before the main force arrives.'[7]

WHO USES RECONNAISSANCE?

The need to conduct reconnaissance missions dates back to the earliest periods in history. For instance, in a remote location in the Australian state of New South Wales, archaeologists found the remains of a human

settlement around the shores of what is now a dried lake system. These remains were dated back some 40,000 years and this evidence shows that there was a thriving civil society there. But due to environmental events that caused the lakes to dry-up, these Aboriginal people abandoned their settlement and moved to other areas. However, Aboriginal folklore has it that each year after the lakes dried out, a small 'reconnaissance team' was sent back to the lake to see if the water had returned and the area was once again inhabitable.[8]

Likewise, in the *Old Testament*, the Book of Numbers (13:17) carried a widely cited passage that shows how the Israelites explored the land of Canaan:

> See what the land is, and whether the people who dwell in it are strong or weak, whether they are few or many, and whether the land that they dwell in is good or bad, and whether the cities that they dwell in are camps or strongholds, and whether the land is rich or poor, and whether there are trees in it or not.

Although these examples are concerned with conducting reconnaissance to obtain information that will assist with the agrarian aspects of economic life (and survival) of these two civilizations, as a generalization, reconnaissance today is predominately used by military forces. The US Army's definition makes this clear; 'to obtain information about the activities and resources of an enemy or potential enemy,' but as the dictionary definition states, it is also about making preliminary inspections of say, areas, zones and routes. In this sense, anyone who has a need to understand an area, a zone or a route, can use reconnaissance to their advantage.

Examples of users of reconnaissance include private investigators, law enforcers such as sheriff's officers, bailiffs, marshals, police and compliance inspectors, as well as emergency response personnel, fire fighters, rescue workers, medical officers and ambulance staff. But it can also be used by others for a range of purposes – say, for instance, a group of friends who want to go camping in a remote location.

If a recce of the area is conducted prior to deploying for the camp, a range of information can be gathered that will ensure the appropriate resourcing of the trip. If a recce of a route to a location where a warrant was to be served, would ensure the appropriate equipment was carried to ensure entry to the property and allow for the planning of emergency exits if the

occupants turn violent. These are only illustrative examples and dozens more could be discussed, but nevertheless these cases show who uses reconnaissance, and the types of situations it can be used in.

WHY RECONNAISSANCE IS USED

If reconnaissance is used to make preliminary observations you might think that it is of limited value and question why it is done. Surely, if it is only for an initial look at a particular area, zone or route then what could this information yield that is so important?

One way to look at the 'why' of reconnaissance use is to take the example given about the group going camping in a remote location. Assume that you were one of the people invited to go on this trip. Your first question might be where are we going? Why ask this? Because if you know where you are going you can prepare for the venture. But even if you were told it was Australia, you would not know what to bring as the country is a diverse geographic location with tropical rain forests, snow covered mountains and dry scorching deserts. You would want to know more details, and so ask which state in Australia? If the reply was New South Wales, you would find that this state has clear blue ocean shorelines and mountainous ranges, as well as forested plains, wetlands and other landscapes.

In short, even if you are told a mountainous region in New South Wales, you still have little idea as to what you need, what awaits you at the camping location and what is needed to make the trip comfortable and safe.

> Scouts can be tasked to locate, observe, and report on places and people, whether the people are stationary or moving. Scouts conduct their surveillance from a variety of unobtrusive positions.

Conversely, consider this as an alternative. When you ask where you are going to camp you are not only told the location details, but presented with a set of photographs that show the location, the surrounding environment and key features in the landscape; creeks, hills, land contours, vegetation, animal and insect life, and so on. Now, having this information you are in a far better position to understand the demands that will be placed on you and your equipment, whether additional gear (or less) is required and perhaps

specialized training in certain aspects of bushcraft in order to cope with the unique environment in that area of eastern Australia.

WHAT DOES RECONNAISSANCE PRODUCE?

Although the definition of reconnaissance is an activity, the activity is not carried out for its own purpose. There needs to be an output. Outputs are usually seen as 'products,' that is things produced through the process. So what are these products? The usual product of a reconnaissance is a report, but if you are thinking of long-winded book-like documents, then this is not correct. The reports we have in mind are different.

Most likely a reconnaissance report is a short, concise summary of the essential pieces of information needed to answer a planning question. Recalling the camping trip example, the planning question might be, 'What equipment is required for the trip?' In terms of the report, a few photographs form the report. As each photograph contains multiple pieces of information these can be 'interrogated' by the viewer and the photographs will provide that information. A narrative report could provide the same information, but as the age-old saying goes, 'a picture is worth a thousand words,' and this adage holds true in the case of a reconnaissance report.

It is not the length of the report or the formality of the report that is important, but the key pieces of information that it provides. A reconnaissance report might be a simple oral account that is provided at the end of a mission, or a hand written set of notes against dot-points; or a pre-printed template that the reconnaissance operative fills in while making the observations or shortly thereafter (while the information is fresh in his memory). A recon report may also be a set of photographs presented in an electronic slideshow via a portable computer. Other examples could be thought of but you get the idea; a report need only address the essential elements of the plan that is being formulated.

RECONNAISSANCE AND ITS RELATIONSHIP TO INTELLIGENCE

Reading about what reconnaissance is and who uses it, would make a person think that the subject sounds a lot like *intelligence*. The term intelligence has been described as:

1. Actions or processes that are used to produce knowledge.
2. The body of knowledge produced as a result of processing.
3. Organizations that deal in knowledge (e.g. an intelligence agency).
4. The reports and briefings that are the end result of process or produced by such an organization.[9]

Sometimes raw data (i.e. information) is referred to as *intelligence*, but this is not a correct use of the term. It can only be considered intelligence after it has been analyzed. Nevertheless, the common theme in all of these definitions is *knowledge*. In intelligence work knowledge equates to *insight*. Or stated another way, it is the ability to *reduce uncertainty*. Intelligence is important as insight and certainty offer decision makers the ability to formulate plans, propose options and instigate actions to take better control of 'the unknown.' Therefore, intelligence can be categorized into four broad functions – espionage, observation, research and analysis, and covert operations.[10]

Although the four categories of intelligence somehow resemble what you will do in a reconnaissance mission, the only one that is a close fit is observation. Recall the definition 'to make preliminary inspection of.' The term *observation* is consistent with this activity and it is what the US Army advocates; a 'visual observation or other detection methods.'[11]

What separates reconnaissance from intelligence is that recon is limited in scope and duration. It could be said that reconnaissance is a tactical activity used to support operations rather than performed for strategic purposes, though the line between the two sometimes becomes blurred and the two merge. Yes, intelligence supports operations through tactical intelligence, but reconnaissance is where a smaller unit (or individual) operates in front of a large group that will follow. Reconnaissance is therefore an activity to make observations that will help the larger unit do whatever its mission is. Observations are made through the act of surveillance. In the context of this book, *surveillance* is simply 'close observation.' Therefore, when the term *observation* is used, it could be interchanged with the term *surveillance*.

In contrast, intelligence is a more involved process that includes information collection, collation, analysis and dissemination. It is often

described as a cycle of events, and like a wheel, the cycle repeats (see Figure 2.1[12]), whereas reconnaissance might be seen as a linear process that has a clearly defined beginning and end.

Reconnaissance does share many aspects of intelligence work including the requirement to be carried out in secret and the tradecraft associated with secret collection work such as infiltration, execution, and exfiltration, as well as observation. Although some of these aspects are considered in this rapid course, secrecy may not be a feature. For example, where a group of friends is considering a camping trip to a remote island in northwest Ontario, Canada.

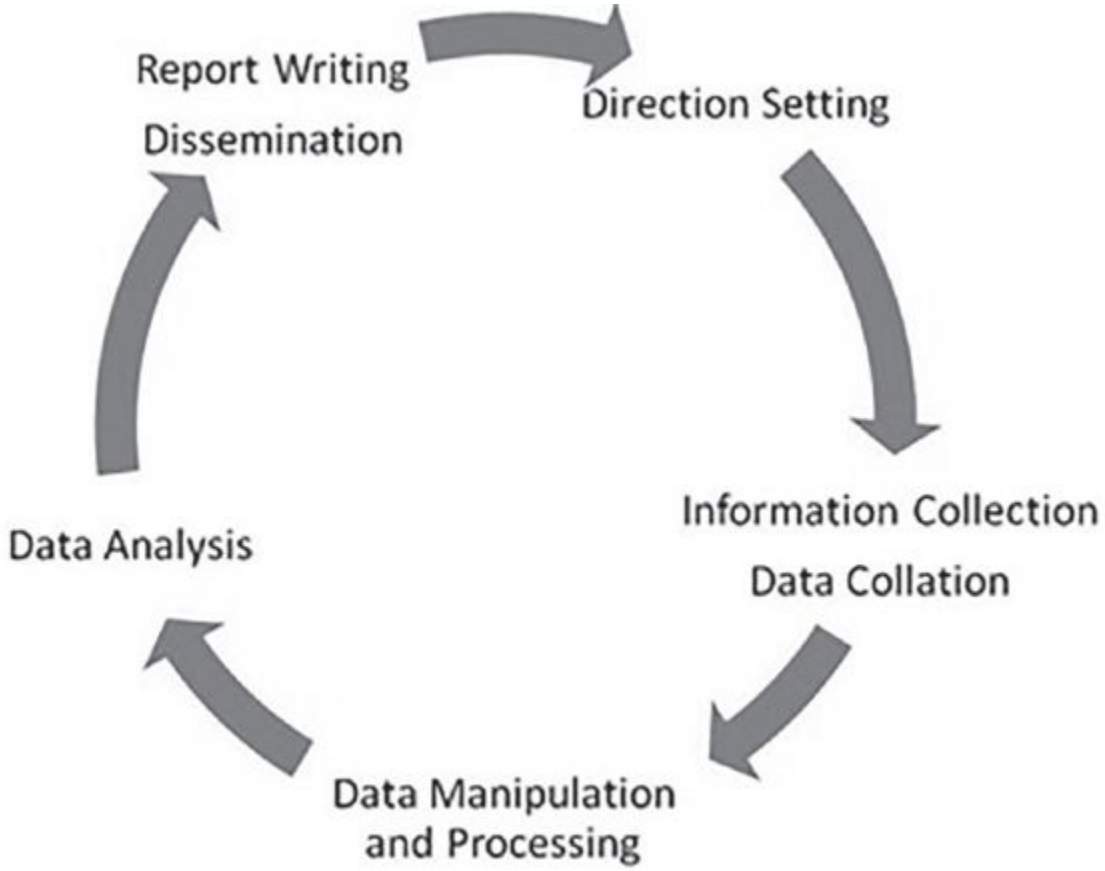

Figure 2.1 The intelligence cycle.[13]

THE DIFFERENCES BETWEEN SCOUTING AND SPYING

Reconnaissance is best described as obtaining information by way of scouting. In general, *reconnaissance* and *scouting* are synonymous terms;

they are exploratory inspections of a place to determine who and/or what is there. Scouting can include patrolling and other forms of 'going forward' beyond the main group. However, essentially scouting is the act of reconnoitring. The term is derived from the old French word (*escoute*), which meant 'listener' (i.e. spy).[14] So, if scouting is the act of reconnoitring, then is that also spying? In short, scouting is a form of spying, but it is not spying.

Reconnaissance is spying in the sense that a person (i.e. a scout) is sent forward to obtain information pertinent to plans that are being formulated, just like a spy might, but scouting is limited, both in terms of its objective and mission duration; hence the term *scout* (a scout could also be termed an *operative*) and not *spy*. Allen Dulles, former Director of Central Intelligence, pointed out this distinction when he wrote that 'espionage is nothing more than a kind of well-concealed reconnaissance. [Reconnaissance] suffices when a brief look at the target is all that is needed… In any case, the length of [the scout's] stay is limited.'[15] Stated in another way, reconnaissance helps commanders to formulate plans, confirm actions that are already underway, or modify deployments based on new information on the evolving events that have been obtained from a scout's observations.

An analogy is that of *scouting* and *infiltration*. In infiltrating an opposition's facilities (including computer facilities via cyberspace) it requires a spy. This is because the person must penetrate the opposition and not be discovered. Their presence and attempt to obtain information must remain undetected in order to succeed. The reason for this is obvious. If they are caught, the value of the information revealed becomes almost worthless.[16]

When a scout goes forward to reconnoiter,[17] although he or she also must be unobtrusive, they are not concerned with being invisible for the same reasons as a spy. They merely need to keep their presence low key so that they are not captured, detained, arrested, or otherwise prevented from fulfilling their mission. No penetration of the opposition or their organizational apparatus forms part of the reconnaissance. This is the case even if the scout comes to the threshold of the opposition's defences, or to a position of near contact or limited contact (i.e. inadvertent contact).

Reconnaissance is always about obtaining information and immediately transmitting it to those involved in planning the mission-in-chief. Take for instance, Gary Powers' U2 flight over the former Soviet Union in 1962.[18] This was a clear penetration of the USSR's airspace and hence he was in effect, a spy. If, however his flight took him up to, or just over the opposition's border before turning back, he would have been considered a scout on a recon mission, not a spy on an espionage mission.[19]

In order to understand something, we need to comprehend the theory that underpins it. And this is the case with reconnaissance, so the following chapter provides a no-nonsense look at the theory of reconnaissance.

REVIEW OF KEY WORDS AND PHRASES STUDY QUESTIONS

1. Explain the types of people, or occupations that might use reconnaissance, and provide an example of each.
2. Explain why reconnaissance might be used and demonstrate this through an example.
3. Describe what is produced at the conclusion of a reconnaissance mission.
4. Discuss the difference between scouting and spying.

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Intelligence cycle.
- Intelligence.
- Observation.
- Recce.
- Recon.
- Reconnaissance.
- Reconnoitring.
- Scouting.
- Spying.
- Surveillance.
- Target.

Chapter Three

Theory of Reconnaissance

Theory is usually associated with complex physical, chemical, or biological explanations. Nevertheless, there are theories associated with almost every type of phenomena one can think of. There are economic theories, social and behavioural theories, criminological theories, as well as theories of education, learning, perception and cognition. The list goes on. There are also military theories and arguably, within this set of theories lies the theory that governs reconnaissance.

WHY DO WE NEED THEORIES?

Why is this important to our understanding of reconnaissance? Why would we need to discuss the theory of reconnaissance? The short answer is that if we have an understanding of the underpinning theory of a phenomenon, we can better access, control, manoeuver or otherwise use that phenomenon. In brief, theories are about the 'why' of procedural practice. And this applies to the phenomenon of reconnaissance.

You may have heard the term *principle* in relation to a *theory*. Principles are essentially a set of ideas that form or underpin a theory. Take for instance, the *principles of security*, or the *principles of physical defence*, and so on. In these examples, and for our purposes, the term *principle* is synonymous with the concept of an *assumption*, or the things that must exist for the theory to be true.

'The acquisition of information about the enemy has always been considered one of the most important elements in war. A commander without information is like a man

blindfolded; he knows neither where to strike nor from what quarter to expect attack; he is unable to make a plan for himself, or guard against the plan of his enemy.'*

SELECTED EXAMPLES OF THEORIES

As an easy way to start our discussion about theories and their underpinning principles or assumptions, we will look at the theory of fire.[20]

The theory of fire states that when material is subjected to rapid oxidation in an exothermic chemical process, it will combust. Put another way, it will catch fire. The underpinning principles are therefore: there needs to be fuel, heat, and oxygen for the phenomenon of combustion to take place. If all of these assumptions are not present it is impossible for things to catch fire.

So what? Well, knowing this theory we can use this knowledge to either make fire occur when we desire or extinguish it, or employ it in a range of applications. For ease of understanding, as theory should not be complex but understandable, we can show the theory's principles in a diagram. This is known as the *fire triangle* and is displayed in Figure 3.1.

Figure 3.1 shows the three assumptions that need to be met for the phenomenon of fire to take place. Without any one of these it is impossible. Therefore, if we wanted to cause a fire, we need to create a situation for these three things to come together. If, we wanted to prevent fire from occurring or to stop a fire that is underway, we target one or more of the principles, say applying water to remove oxygen and remove heat. Or, we build a structure that has no combustible material and hence cannot burn.

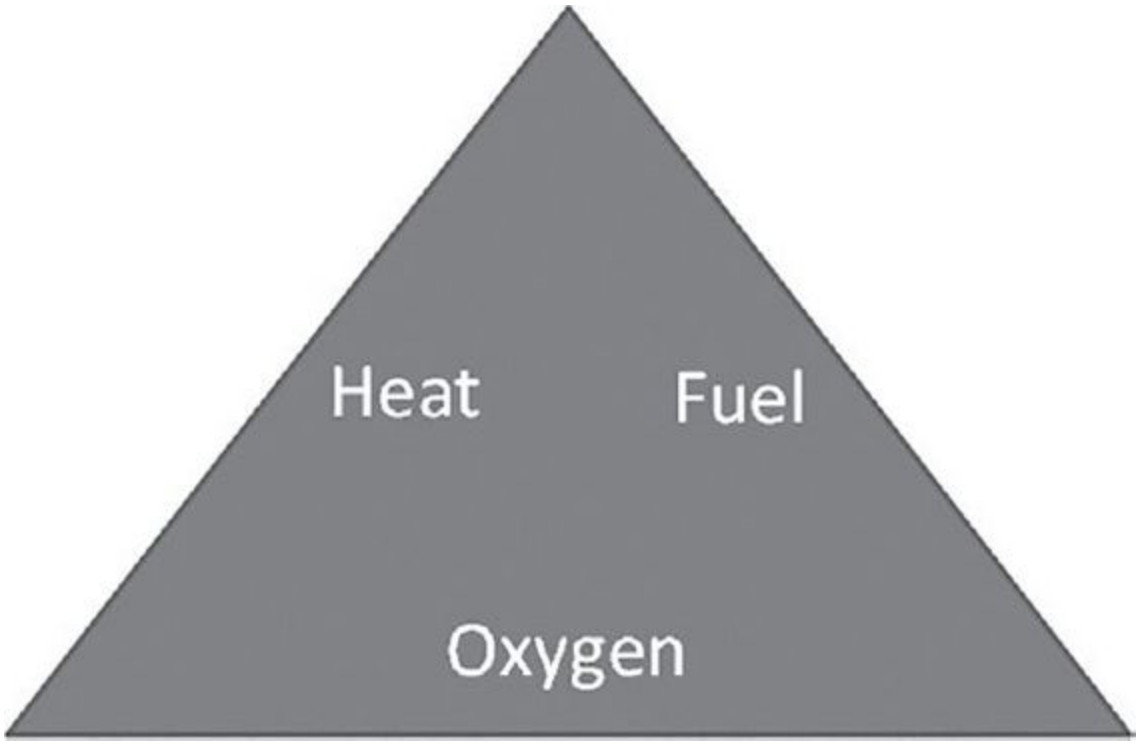

Figure 3.1 The 'fire triangle.'

Another example is from environmental criminology, the crime triangle.[21] This is a theory that states that in order for a crime to take place there needs to be an object (or victim), a person with a desire (or ability) to commit the crime, and opportunity. Without all of these elements being present, the theory says that a crime cannot take place.

What does this mean in practice? Well, in terms of crime prevention, if the target of the crime is removed, say a motor vehicle that might be parked on the street in front of a person's house is placed in a locked garage, then even if a person has the opportunity to be in front of the person's house, and the desire to steal a car, he could not commit the crime because the object has been removed from the equation. This theory is shown in Figure 3.2.

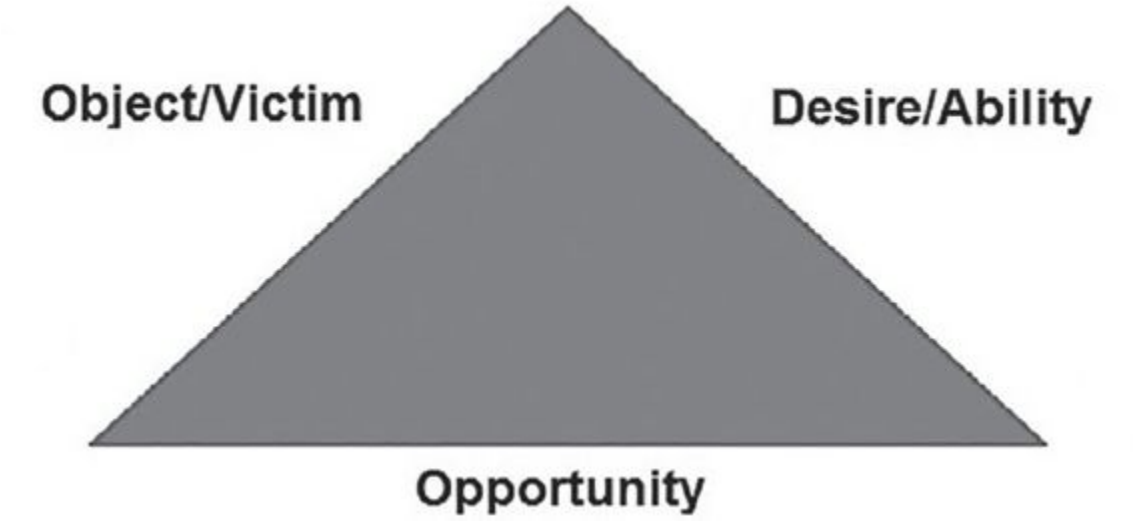

Figure 3.2 The 'crime triangle.'

THE THEORY OF RECONNAISSANCE

This brings us to the theory of reconnaissance. If the purpose of reconnaissance is to observe people and/or places to obtain information about the same, then the theory of reconnaissance can be stated as so:

> *In order for a reconnaissance to take place there needs to be people and/or places that are observable*.

This is depicted diagrammatically in Figure 3.3. This figure shows that the outcome of a reconnaissance is gathering information about the people and/or places, and this can only be achieved if observation is possible (i.e. the act of surveillance) and that people and/or places are able to be detected through the act of observing. Although this might seem self-evident, it is important to state it as these conditions form the assumptions that underscore the theory. This will become central to understanding the implications for practice.

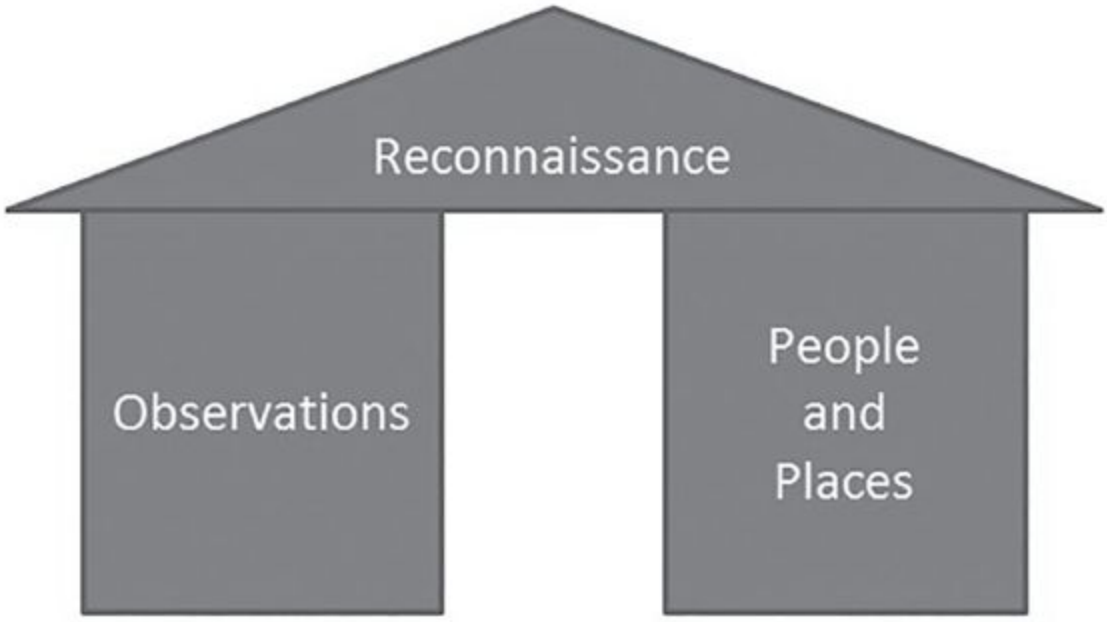

Figure 3.3 The two pillars of reconnaissance – observation of people and places.

TENETS OF RECONNAISSANCE

Before we do look at the practice implications, we need to understand the tenets, or rules that translate the theory into practice. Although these are not the same as say, standing orders or other operational practice directions, they bridge the gap between theory and practice. These tenets act as guidelines for the formation of instructions found in such things as General Duties Manuals for law enforcement officers or General Orders for military personnel.

1. Define the Mission's Aim.

The aim of the recon operation needs to be articulated upfront so that the mission's objective can be realized. Doing so also ensures that the mission is kept within the scope of what is required and areas or activities outside the scope are not inadvertently incorporated. Scope is an important point in establishing the operation's aim. Scope should be viewed as what is important, excluding other issues as a telescope focuses a person's view on a particular object, by excluding other objects that are 'out of scope.'

2. Reconnaissance Missions to be Centrally Coordinated.

Situations that require the execution of many tasks by many people and groups, require coordination. Reconnaissance is no different. Recon missions need to be overseen by a central coordinator who has the view of the overall picture, whether that is a battlefield or the geographic area affected by a disaster, or a large scale crime scene (e.g. the April 16, 2013 terrorist bombing of the Boston Marathon).

3. Redundancy.
In military, law enforcement and intelligence settings, the opposition force (OPFOR) will be employing counterreconnaissance techniques. In these situations, it is likely that the recon unit may be compromised and may even suffer physical injury. Therefore, some consideration needs to be given to backup plans and redundancy to ensure the success of the overall objective.

4. Universal Capability.
Because it is unlikely that a recon mission will be mounted during 'business hours,' Monday to Friday between 9:00 am and 5:00 pm, a capability that allows commanders to launch at any time day or night and in all weather conditions, is important.

5. Independent Action.
Although the information requirements will be provided as part of the recon mission, the reconnaissance unit needs to be able to react quickly to changes in the environment in order to achieve the mission's objective. This is commonly known as *initiative*; that is the ability to react quickly in order to exploit opportunities that present themselves.

6. Reliable Communication.
Information is at the heart of the recon mission, so it follows that there needs to be reliable communication between the recon unit and the command post. The information designated for collection is often termed *intelligence requirements*, or abbreviated as IR. This information needs to be transmitted in a timely manner so that commanders can take advantage of this new data and respond accordingly.

7. Deception.

Acknowledging that the opposing force will be practising some form of counter-reconnaissance, recon units must consider how they will implement deception so as to not be discovered. If discovered, it will be too late for the OPFOR to seize the initiative. Deception is an important aspect for managing all risks, but particularly important for recon units.

IMPLICATIONS FOR PRACTICE

What does the theory mean in the field? It means that a reconnaissance team needs to get into a position that allows them to observe the people and/or places that are under investigation. If either of these elements is not present, then reconnaissance will fail. This may seem trivial, but understanding these elements is essential in taking planning of a recon mission to the next stage; converting these concepts into actions. This is done by way of the seven tenets. The seven tenets of reconnaissance act as guides for creating action plans and developing practice and procedures for opening in the field.

As an example, knowing the principles of reconnaissance has great application for being able to defeat hostile reconnaissance, that is reconnaissance conducted by an opposing force. This is referred to as conducting counter-reconnaissance. Defeating hostile reconnaissance will be discussed in more detail in Chapter 8, but in brief, if people, say troops or the vehicles that carry them (e.g. aircraft, tanks, trucks, etc.) can be hidden, or the places of interest (e.g. fuel and arms depots, factories, intelligence centers, barracks, etc.) can be disguised so as not to be able to be observed, then this element is missing and reconnaissance is impossible.

If the people and/or places of interest are able to be identified, but not able to be observed, then again reconnaissance is not possible. For instance, ‘blinding’ can be done via the use of screens or other blocking devices that obscure or eliminate the vision of the reconnaissance team.

How reconnaissance is done is then subject to the seven tenets, and the procedures developed for use by individual reconnaissance units.

But what are the applications of reconnaissance? What are the various contexts that you can use in reconnaissance? The next chapter will describe the ways you can use it in practice.

STUDY QUESTIONS

1. Explain why theories are important to understand things in our world.
2. Describe the theory of reconnaissance depicted in Figure 3.3, the two pillars model.
3. List the seven tenets of reconnaissance and briefly explain each.

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Assumptions.
- Initiative.
- OPFOR.
- Principles.
- Tenets.
- Theory.

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* David Henderson, *The Art of Reconnaissance* (London: John Murray, 1911), 1.

Chapter Four

Uses of Reconnaissance

Context is always important to understand what we do. Without understanding the context it is hard to understand the mission and the activities we are asked to carry out. In this regard the term *context* means how it is applied (that is, the application of the method). When we talk about reconnaissance, there are a number of contexts or applications for which this activity can be used, and these will be discussed in the following two sections starting with a look at the various types of reconnaissance.

TYPOLOGY OF RECONNAISSANCE

One way to view reconnaissance is to liken it to radar, that is it seeks to determine what is out there, how many, where, when (i.e. timing), and who. So in this regard, reconnaissance has one purpose, to collect information. In doing so, there are three basic methods to information collection: protective, contact and independent. Although these types of reconnaissance may be known under different names depending on the organization, these three types are suitable for our purposes of comparison. Just bear in mind that certain organizations around the world may use slightly different terms.

Protective Reconnaissance

As its name implies, the objective of protective reconnaissance is to offer protection to a larger force. The larger force may be from which the reconnaissance unit comes or it could be an allied force. Bodyguarding is a good example. In the close personal protection industry a reconnaissance of

say, a route to a destination might be conducted by an operative to identify sites along the way that could pose hazards or be potential ambush locations. This data would be analyzed and a plan devised for the main convoy.

In either case, protection can be performed by fixed 'outposts' and/or patrols. In this sense, units engaged in protective reconnaissance can be considered a *covering force*. This is because the recon unit provides security by scouting and observing. Although on first glance this might seem a simple decision, the variety of options available may potentially be wide.

Take for instance, an outpost. In military engagements of the last century these might have meant scouts concealed in defensive positions observing the ground before them. Although this might still apply today, there are other options also available including unmanned aerial vehicles (UAV) in a loitering position above the force's position. Used in this context, UAVs could be considered outposts as their role in offering protective reconnaissance is functionally the same as a soldier in a foxhole with binoculars.

Patrols in contrast, are active measures that employ scouts who manoeuvre in the areas in front and to the flanks of the main force. Patrols can be detachments of ground, sea, or air forces. They perform the same function as outposts, but rather than waiting for the opposing force to present themselves to the outpost scout, patrols actively seek areas where they may be, or to gather other information.

- **Area Search** is a visual inspection of a small, defined area.
- **Line Search** is a visual inspection along a specific route, such as a highway, road, rail line, canal, etc.
- **Specific Search** is a visual inspection of a specified number of locations for particular items of information.

Like outposts, the variety of patrolling options can vary greatly, ranging from scouts on foot to scouts on motorcycles, all-wheel drive vehicles and fast motorized boats if patrolling water courses and seaways. There are also various manned and unmanned aerial vehicles too.

Contact Reconnaissance

This is a form of reconnaissance in force (RIF) that is used in fast-changing tactical engagements with the opposing force. The objective is to engage the OPFOR in battle so that it reveals its position and composition/strength. This is termed *order of battle*. Order of battle refers to the command structure, composition of the units, how they are formed and the equipment, especially its ordnance, of a military force. Because the method of acquiring this information is via combat, it is acknowledged that it does not need a specialist reconnaissance unit to perform the role. Most any combat asset could be used to 'flush out' the enemy so that his form and intentions are made plain.

Autonomous Reconnaissance

This is arguably the most difficult form of reconnaissance as it is steeped in uncertainty. These types of missions are shrouded in ambiguity for several reasons, but foremost because of the task itself. That is, if the commander has not been trained in reconnaissance, he or she may have unrealistic expectations as to what can be achieved and therefore assign tasks that are near impossible. For example, the task of penetrating an OPFOR security screen or traversing a landscape that hosts openly hostile local inhabitants would be extremely difficult. Secondly, it is very likely that any OPFOR will be practising some form of counter-intelligence and therefore this adds another dimension of uncertainty. Finally, there is chance, random error or unexpected mishap that foils all the reconnaissance unit's plans, preventing it from accomplishing its mission.

Special reconnaissance is a specific application of autonomous reconnaissance. It usually involves a deep penetration into an area controlled by an OPFOR or into an area that will be in some way unsympathetic to the presence of the reconnaissance unit (e.g. denied, hostile or politically sensitive).

The mission is based on covert insertion, manoeuvring and extraction, though at any time, an overt extraction may be required due to the three limitations discussed in the paragraph above. Because of the covert nature of the activity it is sometimes referred to as *black recon*.

Although other forms of autonomous reconnaissance are likely to be covert, special recon missions fall into a typology of their own because if

the mission is exposed it is likely to cause an incident between the two forces, perhaps on an international scale. Again using the example of the 1960 U2 reconnaissance flight that was shot down over the then Soviet Union; initially, the flight was disavowed by the US Government until the Soviets produced the pilot and parts of the plane's wreckage.[22]

Special reconnaissance can take the form of aerial, ground or seaborne penetrations and may be done by long range reconnaissance patrols (abbreviated LRRP and pronounced 'lurp'). The topic of long-range reconnaissance will be discussed further in Chapter 5.

ANATOMY OF RECONNAISSANCE

Having described the various types of reconnaissance, we now turn our attention to looking at the various categories of reconnaissance. Using the analogy of the human body, reconnaissance can be likened to being comprised of different parts. Collectively, these parts form the phenomena known as reconnaissance. But unlike the human anatomy, these parts are *categories* (or could be considered domains of practice).

Each of the categories that are anatomically part of reconnaissance is explained below. This list is intended to be illustrative, not exhaustive. There may be other categories of reconnaissance not covered here. In addition, some of the categories described may be known under different names depending on the agency that carries out the reconnaissance mission. Nevertheless, even though you may be operating in a profession other than the military that uses these categories of reconnaissance, you will be able to gain an appreciation of the breadth of the various categories and how each is used in relation to the typology previously described.

Air Reconnaissance

This is the acquisition of information from airborne vehicles about *targeted areas of interest* (TAI). The type and variety can vary widely but all are categorized as air recon; manned and unmanned vehicles, fixed wing and rotary wing, balloons, kites, powered and unpowered, as well as hybrid vehicles. As long as the vehicle obtains information via visual observation and/or sensors it can be categorized as air recon. Air reconnaissance can be either tactical or strategic in nature.

Amphibious Reconnaissance
A covert seaborne landing of a small unit intended to acquire information. This category of recon is characterized by its stealthful approach to the mission rather than landing by force of arms, as might be in the case of an amphibious raid. It is usually conducted by an amphibious reconnaissance unit that is trained and equipped specifically for such purposes.

Armed Reconnaissance
Armed reconnaissance is an activity that seeks targets of opportunity so that they can be attacked and destroyed. Examples of such targets vary widely depending on the military action underway; enemy materiel, personnel and facilities. Armed reconnaissance can be carried out by air, ground and seaborne troops.[23]

Civil Reconnaissance
Although this term is used in this book as meaning other than military reconnaissance, it also has a military usage. In military jargon, this is a type of reconnoitring that surveys information regarding a specific population as a means of supporting military operations that in some way interact with the target population. Data is collected from a broad spectrum of open-source and publicly accessible information. This data might include any or all of the following information types: relational, temporal, geospatial and behavioural as they relate to the socio-cultural background of the population under study.[24]

Electronic Reconnaissance
Is the detection of electromagnetic radiation from any OPFOR source. These emissions could include radio, radar, telemetry, voice, data and others. The aim is to establish the location of the emission and identification of those producing the signals so that they can be assessed to determine the enemy's general strategies and tactics.

Hydrographic Reconnaissance
This is a category of reconnaissance that focuses on obtaining information specifically about an area covered by water. The types of data that are typically sought include the clarity of the water, temperature, depth at

various points, the gradient of the beach/shore, the composition of the bottom, and the location of rocks, reefs, sandbanks and submerged manmade obstacles. This form of reconnaissance may be carried out by a specially trained and equipped unit.

Meteorological Reconnaissance
Another name for this category of recon is *weather reconnaissance*. It involves obtaining data on the weather conditions that are affecting a given area. The information is then used to help plan operations.

NBC Reconnaissance
This is a form of recon that provides commanders with information on nuclear, biological, and chemical (NBC) hazards in the operational area. This data assists commanders with plans and mitigation strategies as well as protective measures needed to enter or manoeuvre in the area.

Pre-Strike Reconnaissance
These are missions undertaken to gather information about targets prior to an attack. The purpose may be as part of target acquisition planning or it may be part of the methodology used to evaluate the damage inflicted by an attack by comparing pre-and post-strike conditions at the target site.

Post-Strike Reconnaissance
These are missions undertaken to obtain information as to the extent and effectiveness of an attack. The data is used to measure results of a *strike* (i.e. battle damage assessment).

Radar Reconnaissance
This is reconnaissance conducted by radar devices to obtain information on enemy activity. It can include space-based reconnaissance satellites that use radar to say, watch for the launching of missiles. In this context, such satellites function like outposts, fixed observation posts, looking for particular activities.

Reconnaissance by Fire
Reconnaissance by fire (sometimes called *speculative fire* or shortened to *spec fire*) is a category of reconnaissance related to *reconnaissance in force*.

However, it is a specific application of firepower to gather information in a tactical setting, that is, it calls for firing upon suspected enemy positions (or randomly) so that the enemy will reveal themselves by either showing signs of movement (indicator of location and disbursement) and/or returning fire (indicator of strength and perhaps order of battle).

Reconnaissance in Force

Abbreviated as RIF, reconnaissance in force is a mission that is equally offensive as it is information gathering. It is intended to attack suspected enemy positions or penetrate enemy controlled areas in order to discover the strength and composition of the OPFOR.

Target Acquisition/Analysis Reconnaissance

Sometimes referred to as either *target acquisition* or *target analysis* reconnaissance. Its purpose is to detect and identify potential targets in order to task combat units to strike and destroy them. It aids in setting the importance and hence the priority of attack, as well as helping determine the weapons needed to destroy the target.

APPLICATION TO OTHER CONTEXTS

Although the anatomical descriptions in the previous section seem to focus on the application of reconnaissance in the military context, recon can and is applied to other fields, in particular, law enforcement and security. So, it is worthwhile to discuss how the three fundamental types and the various categories can be applied to these fields of endeavour. From this discussion you will be able to apply these concepts to other fields and in particular, the field in which you work.

Starting with protective reconnaissance, it can be envisioned that outposts could be established at strategic points around the neighbourhood of a target who is the subject of a court warrant in order to install a listening device. As the team tasked with planting the ‘bug’ moves in they will require forewarning of any possible interruption to their activity. Although a smaller scale, it is analogous to protective reconnaissance in the military sense. Patrols can also apply in this context. Take for example, a number of operatives who patrol as a man walking his dog, or a woman jogging, who patrol the adjacent street and if required, can ‘engage’ the target under their

cover pretext to slow/stall advance on the target residence and provide warning to evacuate the premises.

Although contact reconnaissance could be thought of as a purely military concept, it can apply to law enforcement and security work equally, for instance bodyguarding. Think of a situation where officers have intelligence that suggests that a gang of interest is operating in a particular neighbourhood, but are unable to locate them and to determine their numbers and intent. A door-knock campaign involving a group of uniformed officers tasked with going down the street with home security advice surveys (e.g. crime prevention) in order to cause anxiety when the door is opened, or when the occupants see uniformed officers progressively making their way through the neighbourhood. This tactic is no different to a military recon unit doing the same to an enemy in the field.

Law enforcement officers practise autonomous reconnaissance almost every day simply by patrolling their 'beat.' They are looking for breaches of the law and engaging targets. Though it can be more directed, at the patrol briefing at the start of the shift, general duties officers could be tasked with looking for certain persons of interest or making it a point to focus on certain behaviour patterns. Like the military equivalent, these types of taskings are steeped in uncertainty, and to a large degree require skill to overcome countermeasures exercised by the target population, as well as the random changes that can cause things to go wrong.

As for the other anatomical categories, although many described above are specific to a military context, the approach taken here to adapt them for civilian law enforcement and security purposes can also apply. For example, aerial recon, electronic recon, pre- and post-strike recon and target acquisition reconnaissance have direct application, but there may be others.

STUDY QUESTIONS

1. List the three types of reconnaissance discussed in this chapter.
2. List four categories of reconnaissance and provide an example of each.
3. Explain the different types of searches; area search, line search, and specific search, and give an example of how each might be used.
4. Explain what the initials NBC stand for in regards to reconnaissance.

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Autonomous recon.
- Black recon.
- Contact recon.
- Covering force.
- LRRP.
- Observation post.
- Order of battle.
- Protective recon.
- Special recon.
- Target acquisition.
- Targeted areas of interest.
- UAV.

LEARNING ACTIVITY

It was argued that although the anatomical categories of reconnaissance may appear to relate to military situations, consider other uses of reconnaissance. Use the Internet to research how other occupations use reconnaissance and then list three with examples.

Chapter Five

Surveillance

INTRODUCTION

In this book, the term *surveillance* has been used to mean 'close observation,' meaning a focused inspection but not necessarily an inspection up close. The term *observation* has been used interchangeably with the term *surveillance*, so in this chapter we will look at surveillance in the sense that it is an art (rather than a science) for observing, and we look at it from a perspective that is not usually considered.

Surveillance can be separated into two types; observations made of persons and those of places, as discussed in Chapter 3 regarding the theory of reconnaissance. As such, places can include things that move, such as motor vehicles, watercraft and aircraft, but this chapter will focus on surveillance of persons and places.

Oftentimes when the term surveillance is used, it conjures up images of law enforcement officers or private investigators sitting for long hours in parked vehicles with telephoto-lensed cameras gathering evidence for courts of law. This is in fact what many surveillance operatives do, but in the context of reconnaissance there is a distinction between surveillance aimed at gathering evidence and intelligence, and reconnaissance. Although the outcomes of both of these endeavours are related, their purposes are different. In the case of surveillance for evidentiary purposes, the outcomes might include a few of these illustrative examples:

- To establish if a contravention of the law has taken place.
- Gather information to support a warrant.

- Identify those involved in an alleged violation.
- Help determine the trustworthiness of an informer.
- Support the prosecution's case for a conviction in a criminal case.

Although the above list could be much longer, the concept of how surveillance is used is clear. When we look at surveillance for reconnaissance purposes, the outcome is to obtain information that will assist decision makers formulate plans, confirm actions that are already underway, or to modify deployments based on new information on the evolving events that have been obtained from a scout's observations. These scouting missions can be classified into two types of surveillance; close target reconnaissance and long range reconnaissance.

CLOSE TARGET RECONNAISSANCE

Close target reconnaissance (CTR) aims to gain information about places; buildings, facility, camps/compounds, urban and suburban streetscapes, rural areas, whether these are fields, forests, deserts, swamps, or featuring lakes or ocean sides. Places can also include the atmosphere and cyberspace. In the parlance of the military, these places where close target reconnaissance can take place could be termed 'battle space.'

So what does *close* mean? It is not a micro-examination of the place but a relative term that denotes that the scout will conduct his or her observations from closer than say, a kilometer. Perhaps this distance could be as close as several hundred meters or even closer. If the reconnaissance is at or greater than a kilometer, it is likely that it will fall into the category of long-range reconnaissance.

Recapping, reconnaissance provides decision makers with information, the who, what, where, when, why and how that lies at the center of the inquiry. For instance, a reconnaissance mission could be carried out to provide information to a covert action team who will be arriving in a certain place within a short period of time. The scout(s) could reconnoiter, say, a train station (for example, see Figure 5.1 as a notional case in point), an airport terminal, a luxury hotel or the roads connecting these places so that the covert operatives can negotiate them without drawing attention to themselves. With this information, they can slip in without being detected by police or security, perform their mission and exit smoothly. The scout

should be able to provide routes in and out, as well as alternative routes in case their plan experiences difficulties. Staging points, safe places to rendezvous, as well as other logistical considerations can be identified through close target reconnaissance.

Figure 5.1 Example of a surveillance-style photograph taken of a security detail patrolling one of Europe's train stations. *(Author's collection)*

By way of example, in January 2010 covert operatives of an unknown intelligence agency carried out an operation to eliminate Mahmoud al-Mabhouh while he was visiting Dubai, United Arab Emirates. At the time, al-Mabhouh was reported to have been a co-founder of the Izz ad-Din al-Qassam Brigades, the military wing of the Islamist Palestinian organization, Hamas. In order to carry out an operation like this, it is reasonable to conclude that it would involve scouts conducting CTR of the hotel, lobby, floors and specific items within the hotel such as the door locks (brands and models) so that operatives could plan ahead for how they would deal with

each. It would also be likely that other pieces of information would have been required to support the mission, such as where to rent motor vehicles, where to stay prior to the operation, and so on. This reconnaissance mission was likely to have also required information that allowed the operatives to organize their movements in-country, as well as where to obtain food and beverages, determine how they communicated and of course, plan their egress once each operative's task was complete.

Some agencies have a role for what is sometimes termed *protective operations agents*. These agents can be known by other titles, but essentially these operatives are tasked with conducting area reconnaissance known as *familiarization* in order to plan entry and escape routes from places where case officers (i.e. operations officers or agent handlers) are intending to meet informants or agents.[25]

Although we have only discussed a military-style reconnaissance mission, civilian missions would follow the same *modus operandi*. Take for instance, a civil emergency rescue unit that has been sent forward into an area that has been affected by flood waters. Although the specific issues that require reconnoitring will be different, the thrust of what needs to be ascertained will not, that is answering the five Ws; who, what, when, where and why (see Mission Reporting in Chapter 7 for more discussion on the five Ws).

Close target reconnaissance may seem like it only takes place in the physical world, but CTR can also be conducted in cyberspace. Probing computer systems is a case that immediately comes to mind. Nonetheless, we are not able to discuss this particular type of reconnaissance because it requires background knowledge in computer systems, software and hardware engineering, as well as an in-depth understanding of networks. But the point being made is that you should simply be aware that reconnaissance can be conducted in other environments.

Sources of Information

In a *Wall Street Journal* promotional article it stated, 'The *Wall Street Journal*'s global news coverage, in-depth analysis, market insights and information keep you ahead of the curve, wherever you are.'[26] Although not strictly reconnaissance, the intention of the article shows that in many spheres, civilian and military, people need information 'ahead of the curve,'

regardless of how these 'uncertain futures' may be defined. What this *Wall Street Journal* article demonstrates is that information can aid decision-making and so can information aid the planning of the surveillance phase of a reconnaissance mission.

Speaking in general terms, there are two types of information a scout can call on; open source and covert. This information can be used prior to actually placing a recon team on the ground to conduct their observations. Information gathered through these sources can help streamline the on-site (i.e. in-person) information gathering process, by for instance, identifying key places and people.

Open Source Information

Open source information is information that can be obtained without special access being required, or having to gain authority prior to gathering the data. This source of information is particularly valuable for the scout. This is because the OPFOR against which he or she will be operating is likely to be guarding the information being sought. As well as this, the OPFOR will likely be exercising some degree of counter-reconnaissance (see Chapter 8). Although a list of all repositories of open source information could entail a very large directory, suffice to say the following are indicative of what a scout could use; 'Newspapers, magazines, academic and professional journals, radio and television broadcasts and the Internet.'[27]

It is not possible to discuss all of the sources of open data, but it would be valuable to look at a couple of illustrations that scouts could use to demonstrate the point. Three examples that immediately present themselves are the use of:

1. Satellite imagery.
2. Social media.
3. Basic intelligence.

Satellite Imagery

In years gone by, satellite images were chiefly available to government agencies and large corporations that had the budgets to afford the purchase. Today these images, albeit at somewhat reduced resolution, are available for free via the Internet. There are other fee-for-service satellite image services

that offer better resolution, as well as other options, and these services are affordable to civilian scouts. Militaries around the world have access to their own reconnaissance satellites or to imagery obtained from one of their Treaty allies or coalition partners.

Satellite images offer a reliable view of the topography that is subject to the inquiry. It offers scouts details on possible ingress and egress points; staging, rally and rendezvous locations. Their aid to planning can be immense, and as scholars of covert data collection have pointed out, 'Aerial and satellite photographs are not susceptible to exaggerating the truth as an agent might be. These data simply show what is there and what is not.'[28] Internet-based satellite images are available in several views; photograph images, maps, terrain and a combination. Street-level views are also available.

Because these Internet-based images are only refreshed occasionally, they are not reliable for scouts to use as-is, in lieu of a field reconnaissance, but 'They may be all that is needed to brief a local police or private investigation surveillance team as to, say, reconnoiter the terrain surrounding the target's place of business.'[29]

Although generally these images are of a lower resolution than the military-grade imagery, these satellite images can still be of reasonably high quality. 'So much so that the news media reported that Norway's National Security Authority blocked US company, Apple, from flying over Oslo, the nation's capital, to take three dimensional photographs for use in its mapping application. It was reported that the intelligence agency feared these high-quality maps could be used to undermine national security.'[30]

Social Media

Although social media is associated with people's personal events, interaction, thoughts and opinions, social media can be of use to the scout who is for example, looking for a unique piece of information about a location. Take as an illustration a scout's mission is to reconnoiter the bridge crossing the fictional Orrenabad River. Say that this bridge is located in a region of the world that is by-and-large closed to visitors. Although it is not a 'restricted' area, it is accessed by a limited number of people each year. Therefore, it is vital that the scouting team plan well.

After using satellite images of the area that were obtained via the Internet, scouts could set about searching the Web, as well as the *deep Web*, for social media postings by travellers who may have uploaded photographs of the bridge and its surrounding areas they visited. The combination of average resolution images and street-level photographs could prove the edge the recon team needs to plan a successful mission.

The *deep Web* is also referred to as the *invisible Web* and the *hidden Web*. This part of the Internet is distinct from the *surface Web*. It is estimated that the surface Web contains over six hundred billion pages of information (i.e., 600,000,000,000), whereas the *deep Web*, which is largely unindexed by mainstream search engines, is estimated to contain over 500 times this number of pages.

Civilian applications of this method can be seen in these two illustrative examples; adventurers are planning a trip to a remote wilderness area that is travelled infrequently, or emergency crews planning a land 'search and rescue' mission.

Basic Intelligence

The term *basic intelligence* can be a bit misleading. What is meant by this term is an archive of historical information that acts as an encyclopaedia-like compilation of facts and figures. This information will usually cover a variety of people and places spanning many years, even decades or centuries. This information used to be contained in hardcopy books, but now exists in digital form on the Internet as well as electronic databases (public and private).

Covert Sources of Information

In contrast to open source information, covert sources are those that would normally require a person to have special access granted or have obtained some form of authority to gather the data needed. But because of the nature of military and law enforcement reconnaissance missions, this information is likely to be guarded by the OPFOR, and so covert methods of gathering this data are used.

In the simplest of terms, covert sources of information are those that require access by stealth, deception, ruse or other ploys that allow the information to be unknowingly prised from the source. Although this is not

the purview of a reconnaissance scout, it is the occupation of spies and informants who are managed through an agent handler (sometimes called a *case officer* or an *operations officer*).

The data is collated and stored on secure electronic databases or in special hardcopy filing systems. A scout with a security clearance (usually at 'secret' or above), can use this data to help plan the surveillance phase of their mission.

Reconnaissance by Fire

Surveillance is arguably an art. This suggests that it is a passive practice. Apart from moving into position to carry out their observations, a reconnaissance team would seem unlikely to 'interact' with the target. However, sometimes in order to observe, scouts might need to 'flush out' the OPFOR who may be using counter-reconnaissance methods to hide their presence. This is where the technique of reconnaissance by fire comes into play. This is analogous to pheasant hunting where the hunter walks through a field to disturb the game, causing the bird to take to flight, thus revealing its position and numbers.

There are many examples of this method, but take one variation where a scout drives or walks past, near or towards the target facility to see if they can trigger sensors or monitoring devices. Once these devices are activated, information is collected using electronic means. During the Cold War, Western military powers would fly aircraft directly towards the borders of the former USSR to gauge this OPFOR's response time and degree of response. At the last minute these aircraft would turn back. In some cases the aircraft were reported to have crossed the frontier, entering the OPFOR's airspace, which resulted in the triggering of further sensors and levels of response.

In a battlefield situation, this may be accomplished by direct weapons fire at suspected positions held by the OPFOR in order to disturb their positions, and like the pheasant taking flight, reveal their numbers and other important information for planning defensive tactics and offensive strategies.

LONG-RANGE RECONNAISSANCE

Long-range reconnaissance is generally associated with patrols penetrating into territory under the control of an OPFOR. This might mean operating well behind the front line, but as a rule of thumb the term *long-range* can be distances of one kilometer or more; usually in the range of one to two kilometers.[31]

With long-range patrols, historically this has meant the recon team was inserted behind the line by air drop, helicopter or watercraft, at which point the mission would begin. Still, long-range reconnaissance might simply mean that the reconnaissance team is only able to approach the target to within a few kilometers. This too constitutes long-range reconnaissance. In such cases, surveillance is conducted using optical aids to help observe and audio devices to amplify key sounds.

Let us take as an illustration a fictional example where a NATO reconnaissance team is sent to a village in a region that is experiencing violent civil unrest. The village is not yet under the command and control of NATO, so these military leaders are eager to obtain information about several buildings in the township that previous intelligence suggested were being used as headquarters for the guerrillas. In this notional case, let us say that the scouts patrol their way to within a kilometer of the township. If they patrolled any closer their discovery would occur because the guerrillas had deployed counterreconnaissance patrols and set up sensors to detect intruders.

So employing long-range reconnaissance tactics, the recon team might use camera equipment with telephoto lenses to allow them to photograph the building and more importantly, the services supporting the building. That is the electric, gas, water and telecommunication lines entering the building. In developed urban environments these details may be underground and not visible, but here in a rural location, except for the water supply, the other services are provided via aerial connections from utility poles. Gas is supplied through refillable bottles located on the outside of the building.

The reconnaissance team proceed to take photographs of the electric supply cabling entering the building, the telecommunications cabling and the size and number of gas bottles housed against one of the external walls. The team also photographs the antennas fixed to the buildings' roofs

because they know that intelligence analysts back at headquarters will be able to determine the type of equipment being operated by viewing the configuration and physical size of the antenna arrays. For example, the insurgents might be operating VHF radios to communicate with units in the field but also have WiFi links to other buildings. The direction of the antennas could also tell how far away these other facilities are and how they may be linked.

As an example, Figure 5.2 shows a surveillance photograph taken of the notional target building using a telephoto lens. It shows an antenna array mounted on the roof. There are three antennae labelled 1, 2, and 3. By simply looking at the size and configuration of these devices an analyst can determine their purpose. The first is a UHF television receiving antenna; the second is a high-gain VHF directional antenna used for two-way radio communication and the third is a VHF FM radio receiving antenna. This information reveals that those inside have access to TV and radio news broadcasts (i.e. for monitoring the situation). It also shows that they are in two-way radio contact with others. By following the direction set by the VHF antenna (antenna 2) using a spotter scope, the scout would locate a radio repeater positioned on a far distant hill. This information would prove vitally important to planners.

While the reconnaissance team take their photographs, other team members deploy an audio ‘big ear’ listening device connected to a digital recorder. The parabolic dish of the device is pointed at the various building targets, and sounds from these buildings obtained. Although to the untrained ear, noises might appear to be just a din, to an audio analyst certain sounds could reveal activity of interest (e.g. the sounds of a machine shop might mean they are manufacturing improvised rockets, etc.). In tandem with these devices the unit’s radio operator uses a broadband radio frequency scanner that canvases frequencies likely to be used by the insurgents. Once identified, the radio operator records the frequencies, the radio transmissions and signal strength using a digital recorder for later analysis.

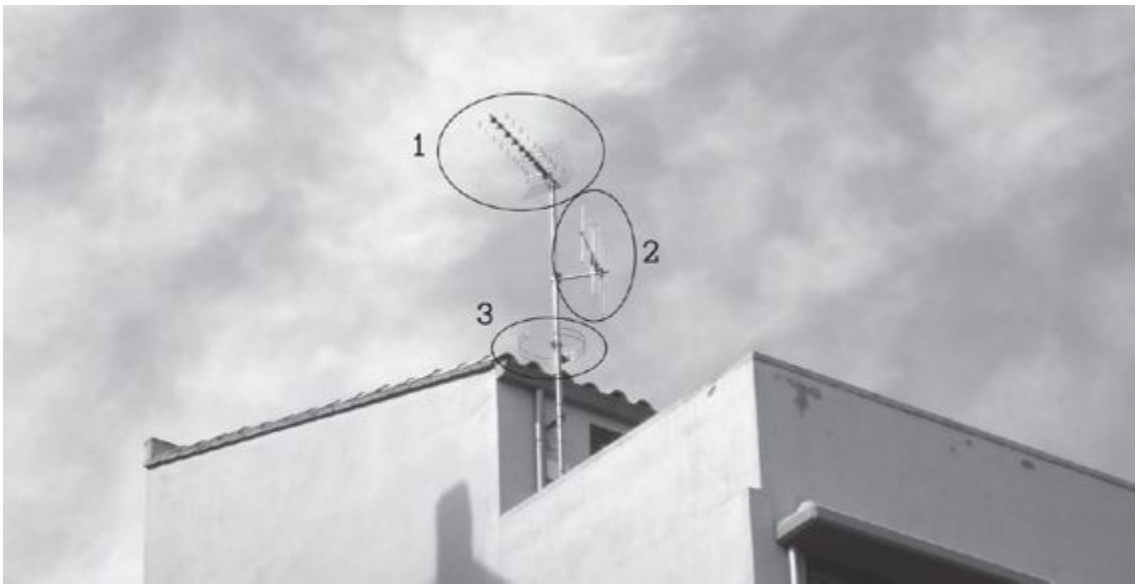

Figure 5.2 Surveillance photo taken using a telephoto lens showing the antenna array atop of the target building. *(Author's collection)*

Although they could, at no time does the team transmit this information back to NATO forward command. This is because the guerrillas demonstrate a high level of counterreconnaissance, so it is likely that they may have been monitoring radio frequencies just as the recon team did. If the team's signals were detected by the guerrillas, they may have shut down all of their transmissions, changed frequencies, employed a higher level of encryption and sent out a patrol to destroy the scouts.

If there is not the concern that the insurgents are likely to be electronically monitoring the radio spectrum, then optical, audio and radio spectrum monitors can be installed with wireless links back to headquarters. These devices can be left behind once the reconnaissance team departs for NATO forward command to file their report (see report forms in Chapter 7). Such an installation acts as a remote observation post.

Even though this is a military example, it is easy to envisage how this same situation could be played out in a law enforcement context where undercover police approach within a kilometer of a target building and carry out the same type of surveillance. This applies whether the target building or facility is in an urban, suburban, or rural setting.

STUDY QUESTIONS

1. List six sources of social media that could potentially hold information that might be useful to scouts.
2. Other than the examples of open source information cited in this chapter, list four additional sources that are readily available (either in hardcopy form or electronically) and where this information could be obtained.
3. Explain how conducting surveillance of places from a distance of a kilometer can still yield valuable information for operational planners.

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Basic intelligence.
- Deep web.
- Open source information.
- Close target reconnaissance.
- Covert sources of information.
- Long-range reconnaissance.

LEARNING ACTIVITY

In a military context, an agency may hold basic intelligence regarding places and people that could be added to the information collection plan/requirements, or used to aid in the planning of a reconnaissance mission. In a civilian context, this type of information might be held on the Internet or in other electronic information 'warehouses,' although in some cases, publications that contain vital basic intelligence might not have undergone a digitizing process and as a result are still held in printed form in libraries. So arguably, library research skills are still needed by scouts.

To test your research skills, locate your nearest library. This could be a city/county library or even a college or university library with public access. Go to that library's reference section and make note of at least ten different sources of information that could be considered basic intelligence. To help you get started with your search of these shelves, look for books with titles that have the descriptors such as almanacs, atlases, encyclopaedias, directories, handbooks (e.g. fact books) and biographical

indexes (e.g. *Who's Who* type texts); there may be others too. Thumb through each of the ten you select and jot down two types of information contained in each that a scout might use in planning a mission. For instance, take an atlas. You would list it as one of your ten, then having thumbed through it, notice that it contains information about the physical descriptions of places, historical and contemporary political boundaries, major roads and railways.

Chapter Six

Surveillance Equipment and Scout Training

Reconnaissance work is like any other performed in skilled occupations; it requires the scout to use specialized surveillance equipment and be trained to operate that equipment. Although there may be many specific pieces of equipment that the scout is required to use (e.g. thermal imagers, unattended ground sensors, image intensification devices), these will depend on the organization (e.g. army units will differ from those of civilian disaster response units). Nonetheless, there are some common basic pieces of equipment applicable to a majority of scouts. Therefore, the training in its use will be common to all.

These categories comprise six distinct groups:

1. Observation.
2. Recordings.
3. Navigation.
4. Communications.
5. Concealment.
6. Personal protective equipment.

We will look at each of these groups and discuss the training that is required to be proficient in using each.

OBSERVATION – BASIC SURVEILLANCE EQUIPMENT

Because scouts rely so heavily on their eyesight in conducting observations, various devices are used to assist them to extend their vision. Using

technology also assists scouts to position themselves much further away from the target than could normally be achieved with unaided sight, thus reducing the possibility of discovery.

Binoculars

The time-honoured device for conducting surveillance is a pair of binoculars. Binoculars are an optical device consisting of two prism-operated telescopes fixed in parallel. This configuration enables a scout to view a magnified image of the target using both eyes. Binoculars have been designed to provide both magnifying power and light gathering capabilities. The latter is essential for observation work at dusk and at night. Binoculars that have an in-built digital camera are also available commercially.

Monocular

Monoculars are also popular amongst scouts as they are smaller, about half the physical size of binoculars and hence easier to carry. For instance, in a law enforcement setting, during an urban reconnaissance, a monocular is less obvious when held to the eye for viewing as it requires only one hand to do this; and in doing so, only one eye is covered, thus making the act of viewing less noticeable to people around the scout.

Spotter Scopes

Viewing a target at distances that exceed the effective range of binoculars (or a monocular), as in the case of long-range reconnaissance, is accomplished by using a spotter scope (a smaller version of a telescope). The magnifying power of the spotter scope ranges from twenty to several hundred times that of normal vision (see Figure 6.1). Binoculars in comparison range from about six to twenty times that of normal vision.

Night Vision Devices

The cover of darkness provides security for troops wanting to conceal themselves and their movements. However, developments in optical technology have made low light (night) viewers available at affordable prices. These units are designated as either ‘active’ or ‘passive’ night vision devices and can provide vision up to 200 meters in complete darkness.

The first group, the active devices, are older pieces of equipment operated by using an infrared light beam. The scout needs to project the invisible beam of energy so that it 'illuminates' the target. The image is then viewed with special equipment that converts the infrared radiation into the visible light spectrum. The second range of devices operate by amplifying the existing background light; the moon, stars, street lights, and so on, by several thousand times, thus literally turning night into day through the sights of the scout's night scope.

Periscopes

The periscope is an observation device usually at home in a submarine, but which can be used in land-based scouting. Small, portable, high quality devices are used to peer over hillcrests or the myriad of objects found in a field. Periscopes are also used in applications such as fixed outposts.

Flashlights/Torches

Although not able to extend the scout's vision, the flashlight (known as a *torch* in Britain and Commonwealth countries such as Australia and New Zealand) is able to provide an artificial light source so the scout is able to see. This is essential where night vision devices are not available or not able to be used (e.g. an urban setting where wearing a set of night vision goggles is likely to land the scout in jail…). Although there are still flashlights that have incandescent bulbs, those with light emitting diodes (LED) are superior. LEDs draw less current from a set of batteries. This means that the life of the flashlight's batteries is greatly extended when compared with an incandescent bulb. LEDs are usually brighter than an incandescent bulb, yet use less power in delivering this illumination.

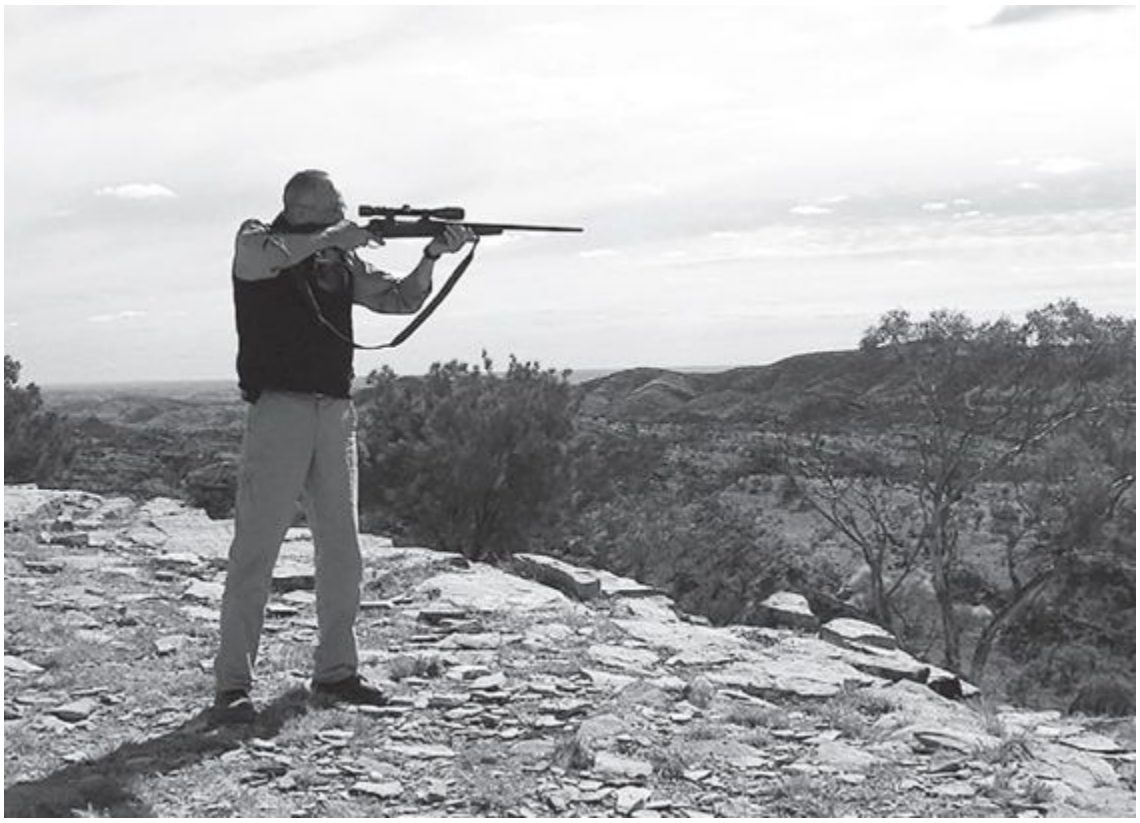

Figure 6.1 On a rural reconnaissance mission a private investigator is seen using the telescope of his hunting rifle to make observations of the target area. He uses the 'cover story' of hunting wild goats to explain his presence in the area, so the rifle played an integral part in his cover and eliminated the need to carry a spotter scope which might have been difficult to explain in the context. *(Author's collection)*

LEDs are also available in several colors; red, blue, and green, as well as white. The advantage of a quad-color flashlight is that a particular color can be selected to suit the operating conditions (see Figure 6.2). For instance, a blue light is an advantage under moonlit skies as a blue hue blends more naturally with moonlight. Red light attracts less attention when operating inside a building and preserves the scout's night vision. Green light is good for map reading when low light conditions need to be maintained. White light is used for general illumination when detection by an OPFOR is not of concern.

Figure 6.2 Example of a quad-color LED flashlight. The colors are selected by using the button switches positioned around the forward end of the flashlight's body. *(Author's collection)*

SURVEILLANCE RECORDING

Remembering

As a scout you will need to recall the facts about the people and places you observe. In most cases, you will have to remember many facts and there are several ways of doing this. The first one to present itself is retaining these facts in your memory. This may work if you are one of a few in a hundred who seem to have some inherent ability to do so. For the majority of us with a 'normal' sense of memory, we will have to rely on the various techniques that cognitive psychologists advocate.

Of these many memory recall methods, you will find that certain ones are suited to some people, while other methods might be better suited to you. It is a case of 'try and see' if it works for you.

The first is to say the information out loud and to repeat it several times. This serves to reinforce the information and is reported to work with people who have heightened auditory senses.

Another method is to use rhymes. If you are observing a place and need to recall the various objects that feature in the scene, then a simple rhyme could help you do this; *I before e, except after c*.

The other method advocated is memory devices. The main device is a *mnemonic*. This is a saying that represents the different aspects of the information needed to be remembered. Take for instance, the mnemonic, '*my very earnest mother just saw us near Paris*,' which is the aid to remember the nine planets;[32] Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto.

There are many devices and variations of each, and hopefully you will discover one that works for you. If you find it difficult to retain facts in your head, then writing them down is the solution.

Note Taking

This is the time-honoured method of writing facts about your observations in a field notebook. The equipment is simple; pencil and notebook. The advantage of pencils over pens is that the ink will not run if wet, they write when upside-down and there is no ink to dry out. There is no harm in having multiple writing instruments and in any case, it would be a wise decision to carry several pencils and pens as they will serve as guards against redundancy.

As with most manual methods, handwriting can be automated using portable computing devices such as smartphones, tablets, netbooks, notebooks and laptops. Some agencies may even have a requirement to record observation electronically as the data may be transmitted in real-time back to an operations room for analysis.

Field Sketching

If note taking and typing are the means by which we record in words what we see, then sketching is the means of recording what we observe in a diagrammatical form.

It involves making representations of objects in the physical world on paper (or electronically on a computing device), and can range from a simple set of symbols to highly detailed drawings. This depends on the scout's ability and although some argue that drawing skills can be learned, it may not come naturally to all.

To overcome this issue, there is a simple method known as 'mud maps' that can be replicated by the majority of people (see Figure 6.3). A 'mud map' is an informal Australian term for any map that is drawn on the

ground using a stick. As you can imagine, it is a roughly drawn map showing the key features, but usually not to scale. It is used to show the important aspects of the scene route or other information items. The ‘mud map’ can also be hand drawn in a notebook or electronically in a computing device.

It is a convenient skill to have and should be practised, as this method combined with note taking would round-off the vital skills for recording facts. The only other skill that is important to have is that of photography.

Photography

Arguably, the best method of recording visual data is via photography. It has the advantage of capturing everything the eye can see and recall it in detail. It can do this in a matter of seconds without the aid of mnemonics, rhymes or other memory devices.

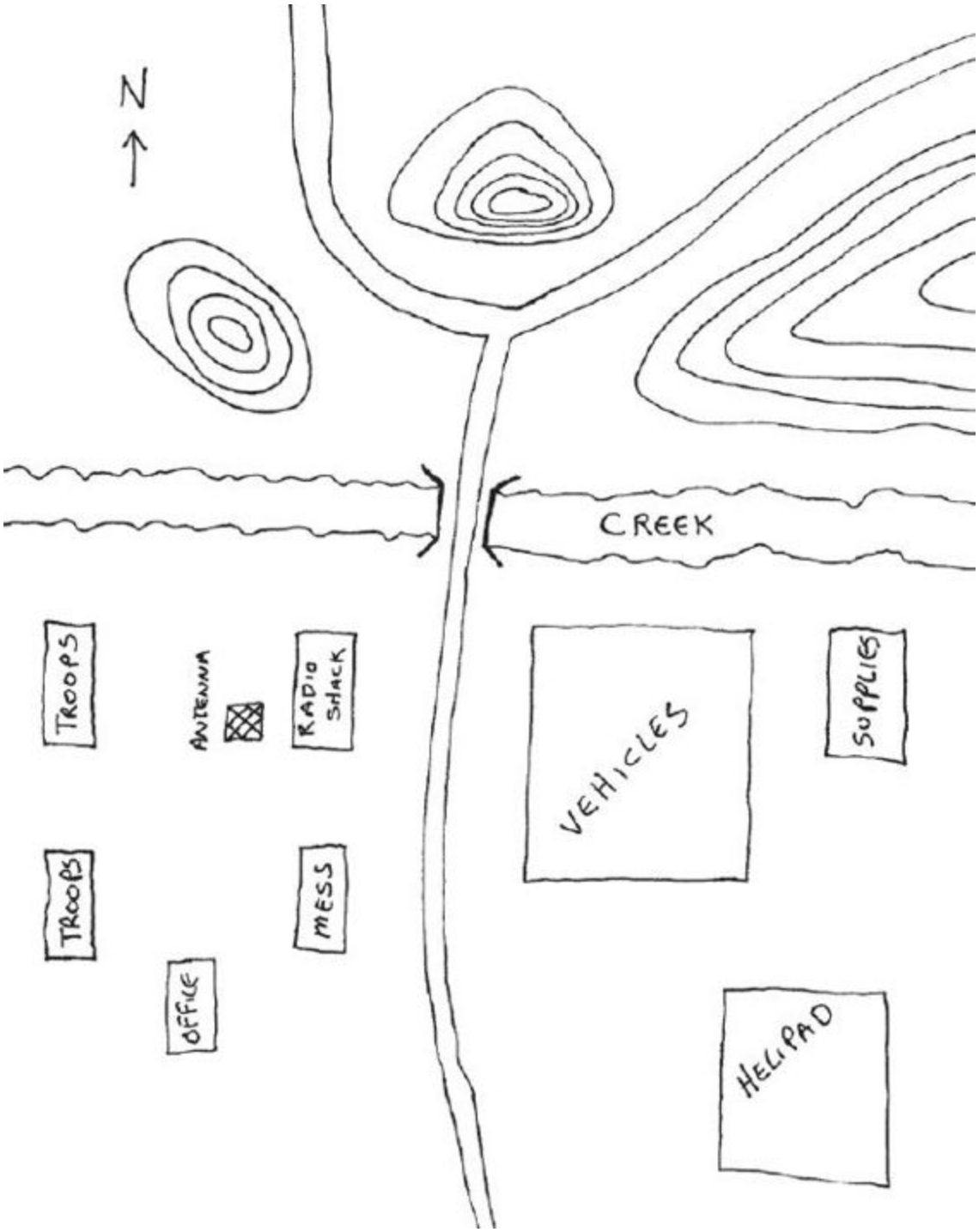

Figure 6.3 An example of a 'mud map'. *(Author's collection)*

The most likely camera to be used in reconnaissance work is a digital, single lens reflex (SLR) which replaced the 35 millimeter film-based camera (see Figure 6.4 as an example of this older type of camera). The

advantages of digital SLRs are their fast (light sensitive) lenses and the immense volume of photographs that can be stored. For instance, a 128GB memory card can hold in excess of 15,000 very high quality jpeg images. In terms of the older film-based SLRs, it would be difficult to carry over 400 rolls of 36 exposure film (and time consuming to change rolls in the field under pressure of the mission). The other key advantage is the ability to download images, edit them using simple software programs and send them over the Internet and wireless data networks.

As with binoculars and spotter scopes in physical observation, telephoto lenses play an important role in reconnaissance photography. A reflective mirror lens (catadioptric) not only enables a scout to greatly reduce the physical size of his or her equipment, making concealment easier, it acts to extend the operational distances. Basically, catadioptric lenses use a system of mirrors to compress the light's optical path. Magnification of a telephoto lens (measured in the focal length of the lens) varies from about 100 to 300 millimeters for conventional lens and up to about 2,000 millimeters for a catadioptric lens.

Figure 6.4 An example of an older 35mm film-based SLR. *(Author's collection)*

Digital video cameras are also popular for reconnaissance work. These cameras are no larger than SLRs and in some models, smaller, so they are often used with a telephoto lens, thus allowing scouts to record their observations from safe distances.

Many cell/mobile phones and smart phones have video recording capabilities as part of their functioning and therefore make ideal reconnaissance cameras in urban situations, though there is some degrading of image quality when compared to a dedicated video camera (see more on cell phones as a potential reconnaissance device in the section below entitled Communication).

In the case of a fixed outpost, a time-lapse option can be used to provide extended coverage from a single digital memory device. In order to achieve this, time-lapse photography operates in a frame-by-frame mode at greatly reduced memory (25 frames per second is considered real-time recording).

Air photographic reconnaissance is where much larger photographic equipment is loaded onto an aircraft and flown over the target area to record the scene. As the aircraft can carry larger payloads than a scout on foot, the advantage is that higher resolution equipment can be employed, but also, because aircraft operate at altitude, the equipment needs to be larger to be able to see clearly what is on the ground.

Aerial photography also includes satellite reconnaissance. At one time this was the privilege of military and national security intelligence agencies, but quality satellite images are now available for purchase from commercial suppliers. The only disadvantage is that the timeliness of the photos may suffer as it may be too costly for scouts other than those employed by the military or national security to have access to real-time satellite imagery (see Chapter 8 regarding counter-satellite reconnaissance).

Photographic Editing Software

Although these computer-based applications are not strictly facilities that a scout would use, they are worth noting as photographs taken in the field can be manipulated by analysis to form a composite picture that reveals more information, or information in a more understandable form.

Figure 6.5 A surveillance photo of a Hyderabad neighbourhood showing how a wide-angle view can be created by joining two photographs using editing software. *(Author's collection)*

An example of such software is a program that allows several digital photographs to be joined together to form a panoramic view of the scene (Figure 6.5). As most cameras have focal lengths that zoom from a normal reproduction of the subject to a much-magnified image (i.e. telephoto), they rarely accommodate a view wider than a standard wide-angle lens can provide. However, with the aid of editing software, a panoramic view can be created to show the scope of the issue under investigation. This type of software can join photographs horizontally or vertically, and some can join photos horizontally as well as vertically in the same frame (like a mosaic).

SIMPLE NAVIGATION

Global Positioning System

At one time this space-based satellite navigation system was used solely by the military, but now GPS units (global position system) are ubiquitous; even family automobiles have these devices built-in. GPS was developed by the US Department of Defense and the system operates by using numerous satellites that each transmits data to anyone who has a GPS receiver. These data packets contain two essential data items that allow the GPS receiver to

display where the user is, the time the data packet was transmitted from the satellite and where the satellite was when it transmitted that data packet. The GPS receiver has circuitry that allows it to take these electronic packets of information and compute the GPS user's location.

Through various options, GPS manufacturers allow users to select how their location is displayed on the GPS screen; usually with visual aids such as maps, or simply listing the latitude and longitude coordinates. More sophisticated GPS units will provide elevation or altitude information and have the ability to compute travel routes, time to arrival or any number of other functions.

A good GPS unit will be easy to use and anyone with experience using a vehicle-mounted GPS will be able to quickly understand and use the more sophisticated hand-held devices scouts would be likely to use.

Before GPS, the system used for terrestrial navigation was by means of a compass.

Using a Compass

Using a compass is a key skill for scouts. Although GPS units will no doubt be used in the field, it is important to understand how to use a compass. Full day courses on how to use a compass can be undertaken, but the procedures can be condensed into three basic steps. These steps are shown in Figures 6.6 through 6.8 (Illustrations are courtesy of Suunto).

Step 1: Place the compass on the map so that one edge of its base plate rests on your current location (shown as a square dot in Figure 6.6) and points to your desired destination (shown as the arrowhead in Figure 6.6).

Step 2: Rotate the direction ring (known as an *azimuth ring*) of the needle capsule so that the lines are parallel with the north – south lines of the map (Figure 6.7).

Step 3: Now, holding the compass away from the map in front of you, turn your body on the spot until the compass needle points to north on the direction ring capsule.

In this position the direction arrow on the base plate will be pointing in the direction of your desired destination. You now

select a landmark on the line of travel indicated by the direction arrow. You then travel to that position and repeat step three until you reach your destination.

Performing this step allows you to travel without having to continually refer to the compass for the correct bearing (Figure 6.8).

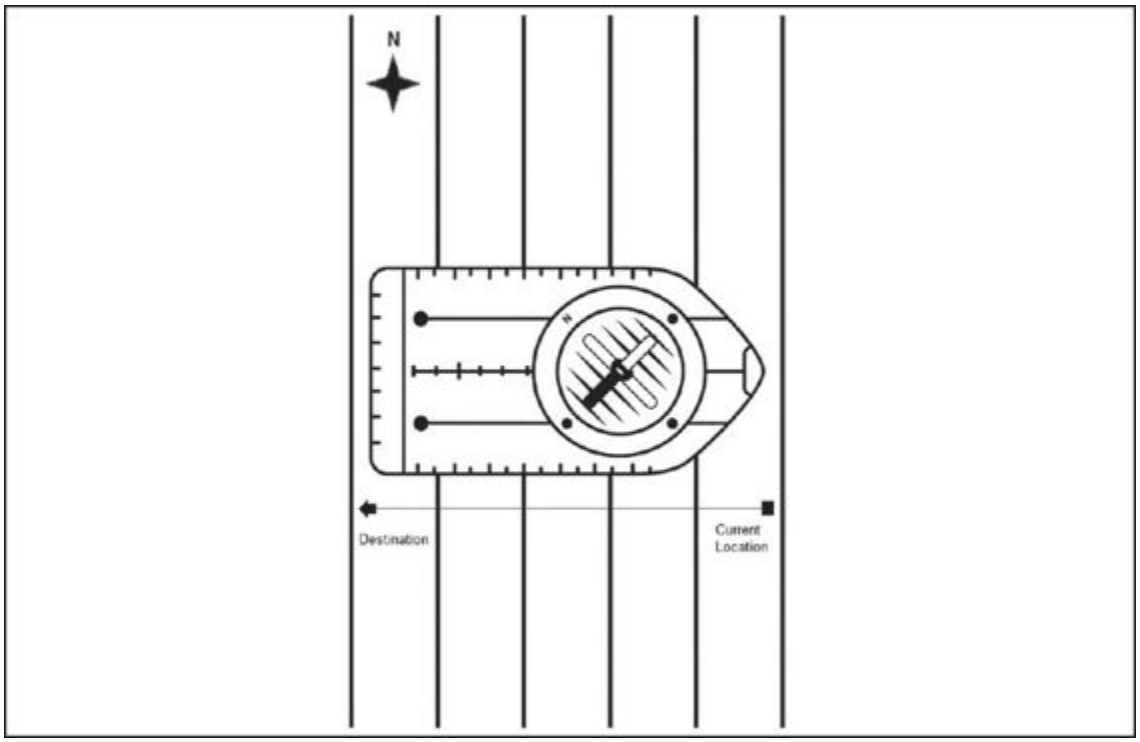

Figure 6.6 Base plate on current location and pointing to desired destination.

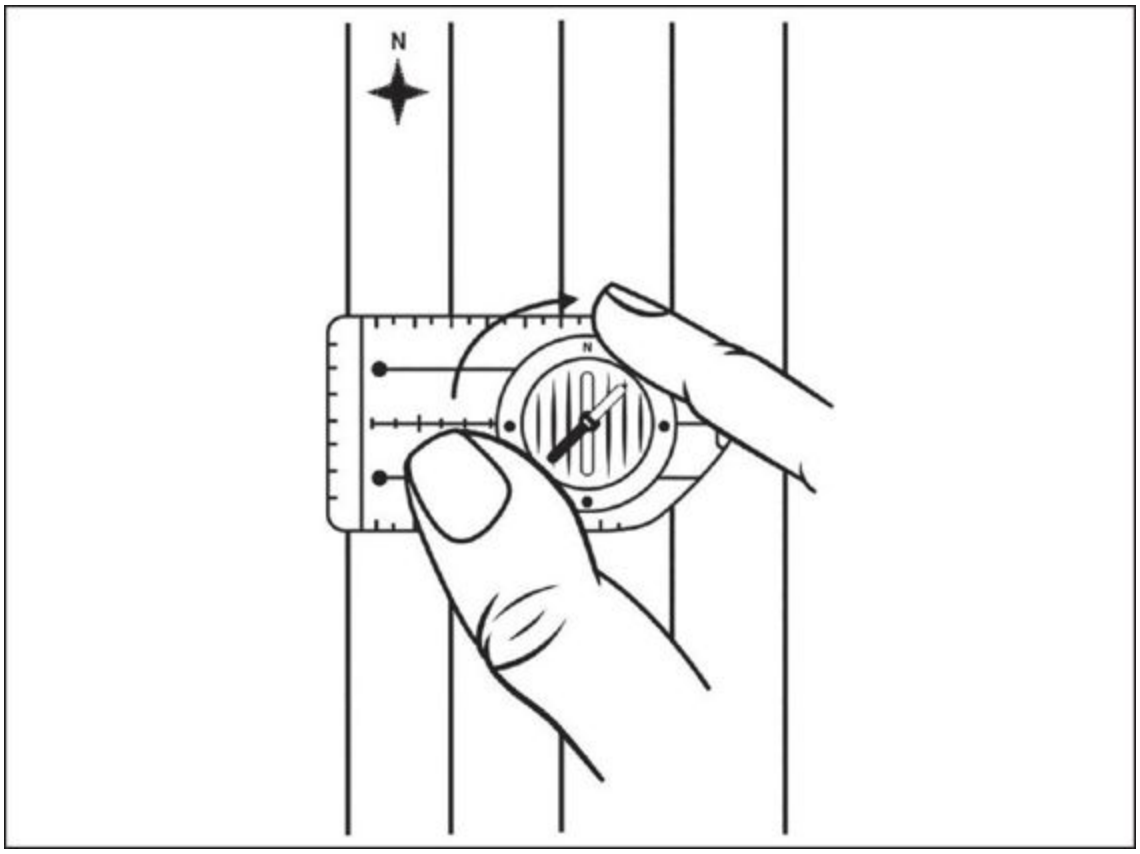

Figure 6.7 Rotating the direction ring of the needle capsule.

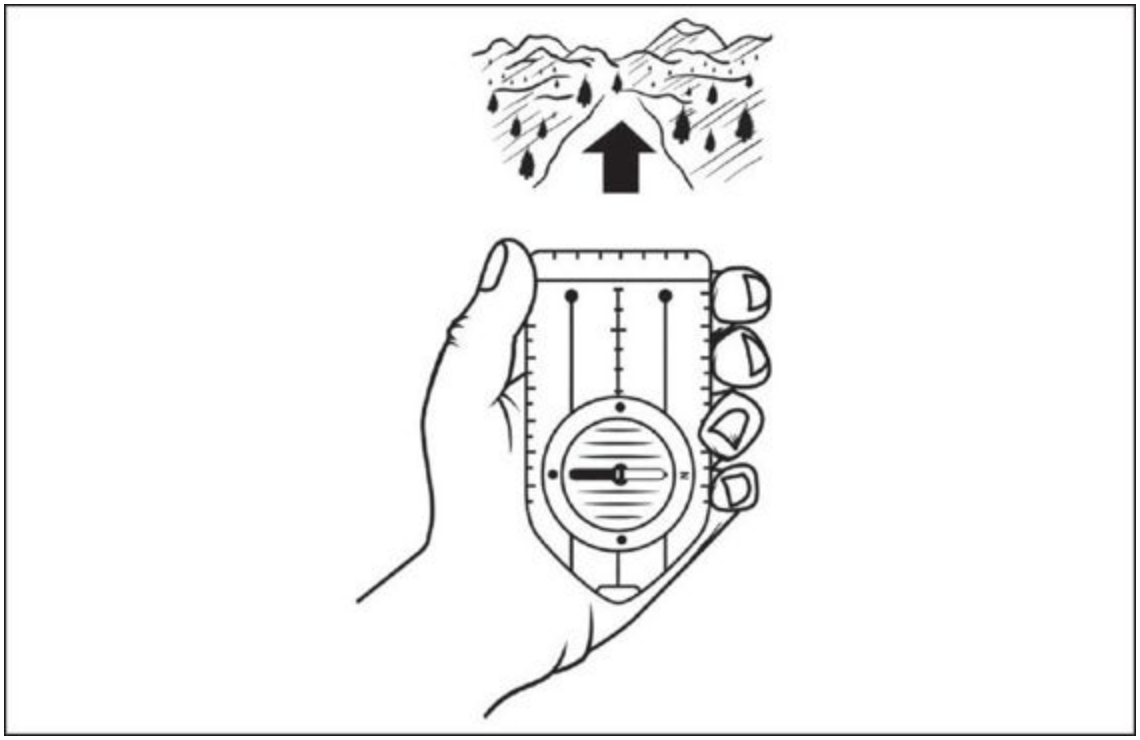

Figure 6.8 The base plate's direction arrow points to destination.

Scale and Measuring Distances

Estimation is part science and part art. It is the act of approximating something that is not able to be measured accurately. In terms of reconnaissance, estimating distances is very important because a scout is not always able to get close enough to the target to ascertain the exact location. This is important in rural and remote areas where counter-reconnaissance and countersurveillance methods may be in place.

The first method is where a scout has a commercially produced map. These maps will have a number of important information items listed in their borders, including the linear scale used. The term *scale* is expressed as a ratio consisting of a distance shown on the map to a corresponding distance on the ground, for example, one centimeter to one thousand meters, or one inch to one mile. Map scales differ, but generally aviators' maps have a scale of approximately 1:250,000. Military maps may be around 1:100,000 or perhaps if more detail is needed, at 1:50,000. Hikers' maps usually show a good deal of detail at a scale of about 1:25,000. So, you can see from these examples, as the ratio gets smaller, more detail is able to be shown on the map.

The way to measure distances in a straight line on a map is to lay a piece of paper so that its straight edge touches the two map points. Make a pencil mark denoting the space between the points and then lay the paper on the map scale so the first point rests on zero. Now read the distance on the scale to where the second point lays.

This is a convenient method where the scout can view the target at distance through binoculars or a spotter scope. The map feature where the target is located is noted and the distance between where the scout is and the target can be estimated using the map's scale. This is what took place in the example shown in Figure 6.1. The private investigator was able to determine the distance based on the location of the target from a commercial hiking map.

This same technique can be used to measure distances along a road, river or other causeway the scout is on or has followed. The only difference is that the piece of paper being used needs to be pivoted at each bend or turn as it follows the path travelled. Alternatively, a piece of string can be used

to do the same. Care needs to be exercised so that an accurate estimate can be determined.

Judging Distances

Although there are a number of methods for judging distances without resort to actual measurement, two will be discussed here as these are seen as the easiest and likely to yield accurate results for the novice scout. However, it must be borne in mind that certain conditions will adversely impact on such judgments. A target may look closer than it is if the:

- Light is bright and is shining from behind the scout.
- Ground is obscured between the scout and the target.
- Target is positioned at higher ground than the scout.

In contrast, the target may appear further away than it is if the:

- Light is poor or shining into the scout's eyes.
- Target is smaller than the objects around it (e.g. larger rock features, large rivers, large buildings, etc.).
- Target is located across a basin, canyon or gorge.
- Target is shown against a dark background or backdrop.
- Scout is lying on the ground.

Unit of Measure Method

The first step is to use a distance that the scout is familiar with, say a football field. Using this as a gauge, estimate how many of these units could fit in between the scout and the target. The limitations with this method are that it relies on the scout being able to view the ground between him or her and the target, and the effectiveness of this method diminishes after about 400 meters (i.e. 437 yards).

Halving Method

Working backwards from the target, determine the approximate halfway point. Then working from that point back to the scout's location, halve it again. At this point the scout should be able to determine the distance to this quarter-way point. It is then a matter of multiplying this distance by four to arrive at the estimate to the target.

Combined Method

To double-check either of these methods, a scout can ask two of his or her unit members to undertake the distance judging exercise, one using the unit measure method and the other using the halving method. The results should be within a reasonable approximation of each other. If they differ, the range can be used. For example, between 350 and 400 meters or whatever are the two distances.

> 'Landmarks on a map never look the same as they do on the ground, and it's a lot worse in bad weather.'*

Estimating the Number of Objects

Sometimes it may not be practical to remain at an observation post for long. This may be because of the risk of discovery, or it may be a simple economic issue (e.g. a client could be paying a private investigator by the hour). In these cases, it may be sufficient to estimate the number of objects that are likely to be the focus of the reconnaissance mission.

As an example, take the notional case where a military recon unit is sent forward to estimate the number of civilians using a particular roadway. Assume that it is safe for the reconnaissance unit to get within 500 meters of the target and set up an observation post, but that it would be unwise for them to loiter in the area for more than thirty minutes. They could set up a spotter scope and establish a visual landmark on the road. A scout then counts the number of civilians passing this point every ten minutes. He or she repeats this counting exercise three times before they exit the area. The three estimates are then averaged and a figure obtained.

In this example, say there were ten, nine and twelve people passing the point on the road every ten minutes for the three 'samples' taken. The average is therefore ten people per ten minutes (i.e. 10 + 9 + 12 / 3 = 10.3). If the scout then multiplies this figure by six, he or she will then obtain an hourly estimate of sixty people per hour, or approximately 480 if there was an eight-hour 'work day.'

COMMUNICATION

Transmission of Information

The purpose of communications equipment is to send messages from one to another in a way that the message is understood. This fulfils the sixth tenet of reconnaissance; reliable communications (see Chapter 3).

Because technology is so pervasive, the first option that comes to mind is that of mobile radiotelephony (i.e. cell phones). But, this technology relies on having 'cell towers' (which are essentially radio repeater sites that operate in the microwave portion of the radio spectrum) within range of a reconnaissance team. This is fine in urban and suburban areas and even in most rural areas, but there are locations that are not covered, or covered well, by cell phone technology. In these cases, two-way radio is the best option.

Smartphones

Before discussing radio communications, we will take a brief look at how a smartphone (including the older cell/mobile/handy telephone types) can be employed in an urban setting as there are several advantages to these devices that cannot be discounted despite their dependency on dedicated infrastructure and monitoring/interception by hostile forces in foreign lands.

The first is its purpose as a signalling device; after all, this is its chief purpose, to facilitate communication. It provides more that two-way communication; it can also dial-in to a 'conference call' facility where there are multiple participants. Granted this would have to be set-up by, say the command post staff, but nonetheless, it is an option that could be valuable if constant replaying of messages is to be avoided.

The second is that all are marketed with a digital camera. Moreover, those with this capability often come with digital video recording facility and included sound recording (which can be switched off in cases where breach of a jurisdiction's listening device legislation must be avoided). This feature can be at or close to real-time recording, with little or no interruption to continuity of the subject being observed.

The third feature is a sound only recording facility. This is essentially a voice recorder for making oral notes or recording field sounds for transmission to analysts in the command post, or similar situations.

Finally, some are equipped with small LED flashlights. This makes for handy use in low light conditions or for signalling other operatives, thus eliminating the need to carry a dedicated hand-held light.

Radios

Radio transceivers are equipped with what is known as *simplex frequencies*. These frequencies are single channels that do not use a *repeater*. Their signals travel direct from radio to radio via line-of-sight. Simplex channels are used primarily for close range communication where two (or more) 'stations' talk directly to one another. Range depends on many physical factors but the hand-held units that produce between three and five watts of power, can effectively communicate between a few hundred meters and a few kilometers.

Although it is likely that simplex frequencies will be used for intra-unit communications, a reconnaissance team may be able to transmit through a radio repeater, similar to the cell tower used in mobile telephony. A repeater is simply a radio that receives your signal and re-transmits it. So in effect, there are two radios incorporated in a repeater, one for reception and the other for transmission. It does this because it has been positioned in a location that is high and clear of obstructions, so that it affords radio users extended coverage that may not be obtainable at their location.

Radio repeaters are commonly located on high hills, mountains or tall buildings. In areas where such permanent installation can take place, say zones of conflict, then repeaters can be deployed in balloons or aircraft (including unmanned airborne vehicles), but the location and deployment of radio repeaters does not have to be limited to these scenarios. Repeaters can be located according to circumstances. For instance, a repeater could be mounted in a vehicle and driven to a suitable location, parked and left to operate until the reconnaissance team moved on or completed its mission. Or, the vehicle could be moved around the area as the reconnaissance team traverses the landscape. Moreover, a radio repeater could be positioned in a satellite and accessed through a hand-held radio, similarly to a satellite telephone.

Because repeaters are usually situated in fixed locations (or fixed in vehicles) they comprise larger, more powerful radios. They have larger antennas and hence more transmitting and receiving power. Repeaters provide a boost to the relatively weak signals coming from hand-held radios, therefore extending the range of hand-held transceivers.

Radio Frequencies

Radios transmit and receive different frequencies. Radios that only transmit are called *transmitters* and radios that only receive are called *receivers*. Radios that are capable of both are called *transceivers*.

Setting the correct operating frequency is done by the operator who selects the frequency by tuning, either by a dial or via a numeric keypad. In most cases a frequency in either the VHF (very high frequencies) or UHF (ultra high frequencies) bands will be used, but if distances beyond line-of-sight are required, HF (high frequencies) are likely to be considered. This is governed by the laws of physics.

VHF frequencies range from 30MHz to 300MHz and UHF frequencies span 300MHz to 3,000MHz (or 3GHz). Signals at these frequencies pass through the earth's ionized atmospheric layers and into space. Signals below 30MHz are reflected by these various layers and return to earth. This is why VHF and UHF radios are used for line-of-sight communications, whereas HF is used for distance over the horizon.

Radio Nets

With cellular radiotelephony conversations are limited to two people unless some facility for accommodating a conference call is implemented. However, with radio communications, numerous people can access a radio frequency and hence, be included in the exchange of information. Therefore, someone needs to oversee this exchange.

This person is known as the net controller. On the ground, this may be the reconnaissance team leader. Up the chain of command, there is likely to be some form of operations officer. The net controller is responsible for directing the radio traffic on his or her frequency by giving permission to individual stations to send their messages, or to remain radio silent, or whatever the situation calls for.

Basic Radio Operating Procedures

Using a two-way radio is similar to using a cell phone, but there are a few important differences. On a radio, only one person can speak at any time but other people can listen-in on the conversation. Because of these features, there are operating protocols that have been developed over a century, including the use of *procedural words* commonly called *prowords*,

which need to be followed to ensure your message is understood. A list of the most commonly used prowords appears in the list below.

- All radio operators are known as *stations*, which is shorthand for radio stations.
- *Call sign* is the code name used by stations to identify themselves while transmitting (i.e. on the air).
- *This is* means this transmission is from [call sign].
- Each time you finish your message, you conclude with the word *over*; short for 'over to you.' Sometimes the proword *back* is used, as in 'back to you.'
- *All understood* is the proword used to let the other station know that you have understood the message.
- *Copy* means the last transmission was received satisfactorily.
- *Send* means transmit your message now.
- *Send again* means that you have not understood the message and you want the message repeated. The word *repeat* is <u>not</u> used because in the military it has a different meaning, e.g. repeat the artillery bombardment with another, say, ten high-explosive shells.
- *Roger* means yes or correct; also the prowords *received* or *copied* mean the last transmission was satisfactory.
- *Wilco* means 'will comply'.
- *ETA* is an abbreviation for estimated time of arrival.
- *ETD* is an abbreviation for estimated time of departure.
- *No duff* means the message is not part of a drill or exercise; a serious situation.
- *Radio check* is used when the transmitting station wants a report on the strength of its signal and clarity of its audio.
- *Standby* is used when you need the other station to standby or wait for more of the message to follow. This is used if you need a few seconds to find / locate something.
- If you need the other station to wait for longer, up to a few minutes before you continue the conversation, the proword used is *wait out*.
- When the conversation is finished, the station that first made contact concludes the conversation with *out*. The phrase *over and out* is never used; it is a contradiction in terms. A station cannot hand back the

conversation to another station (*over*) and end the conversation (*out*) at the same time. It is either *over* or *out*, but never both.

- *Silence, silence, silence* is sent by the net control station requesting all transmission to cease until the order is lifted.

There are prowords that are used when a station calls in for a *radio check*; these are signal strength and readability. Signals strength is the magnitude of the electric field generated by the transmitting station's antenna. Readability is the listening station's assessment of how easy or difficult it is to understand (i.e. *copy*) the transmitting station's message (see Table 6.1). For example, a report that your transmission was *very weak* would mean that your signal was *fading* and your audio was received but *with interference*.

Table 6.1 Commonly used readability prowords.

Proword	*Signal Strength*	*Readability*
Unreadable	Barely perceptible	Unreadable
Very weak	Fading	With interference
Weak	Weak	Distorted
Readable	Good	Readable
Loud and clear	Loud	Clear

Table 6.2 The phonetic alphabet.

A – Alpha

B – Bravo

C – Charlie

D – Delta

E – Echo

F – Foxtrot

G – Golf

H – Hotel

I – India

J – Juliet

K – Kilo

L – Lima

M – Mike

N – November

O – Oscar

P – Papa

Q – Quebec

R – Romeo

S – Sierra

T – Tango

U – Uniform

V – Victor

W – Whiskey

X – X-ray

Y – Yankee

Z – Zulu

The other important operating procedure is the use of the phonetic alphabet (Table 6.2). This is because letters such as P and B (as well as others) can be mistaken over the radio, but when using the phonetic alphabet, it is less likely to happen; *Papa* and *Bravo* are very distinct sounds and unlikely to be confused.

On-Air Privacy

Although a reconnaissance team may be operating hundreds of kilometers from towns or other population centers, and rule of line-of-sight applies to radio transmissions, there will be others who may be in the area, or from time to time, are travelling through the vicinity. So it is entirely possible that some of these passers-by will have *radio scanners* and will be monitoring a wide range of frequencies while they motor along. Radio scanners can scan hundreds of frequencies per second. Therefore, when operating radio equipment it is necessary that some assessment is performed to determine the risk of interception. If the risk is shown to be of a magnitude that could place the mission in jeopardy, then countermeasures need to be implemented to protect the transmission and the message it carries.

This could be done in several ways, but the two most common methods are to encrypt the signal so that interception will yield unintelligent noise, or to use code words. The first method is an equipment-based solution that needs to be carried out by a radio technician, whereas the second method is done through operating procedures. Code words are words or phrases that are substituted for the true meaning. For example, the phrase 'Could Mr Gifford report to the storeroom,' might mean that the mission needs to be aborted. A list of common actions, events or incidents can be compiled and code words concocted to substitute for these. The aim is to make the words or phrases, dissimilar to the true meaning so anyone listening cannot guess the meaning.

CONCEALMENT

Camouflage is a simple but effective method of creating an illusion. It is a method of taking something that exists and with the application of art and science, can be made to vanish. Of course, the object does not actually disappear. It is simply disguised to the extent that the object cannot be seen, or when seen, it is too late to offer advantage. History has demonstrated not only the usefulness of this system of deception, but the essential function it has played in many operations over the centuries of military confrontation.

Figure 6.9 shows an airman demonstrating jungle camouflage. However, camouflage does not have to be face paint and disruptive patterned clothing. For instance, camouflage in an urban setting is accomplished by 'mimicking' the dress patterns of the others in the venue like a chameleon.

Figure 6.10 shows a trainee private investigator conducting a reconnaissance of a target location from her observation post in an urban café. Note that she is concealed by virtue of fitting in with the café's other patrons, not by patterned battledress.

There are many variations as to how camouflage is applied and what materials are used. These materials include both natural and artificial products. It could be the subject of an entire text on camouflage, so it is beyond the scope of this book to cover all of the techniques here. But suffice to say that if the principles of concealment that were discussed in the chapter on theory (Chapter 3) are considered by the scout when he or she camouflages a person or an object, then it is likely to achieve the purpose of preventing detection or delaying detection until effective reaction by an OPFOR is too late.

PERSONAL PROTECTION

For military and law enforcement personnel, the nature of reconnaissance is inherently dangerous. This is because recon units venture forward of the main body. They conduct protective missions and autonomous surveys of areas. These types of reconnaissance were discussed in Chapter 4 along with various anatomical categories that such missions may take.

Even though recon missions are dangerous, they are not 'suicide missions.' And in fact, with missions that are classified as *special reconnaissance*, it is vital that the opposition force does not discover the unit or realize that the unit has penetrated their zone of control.

Figure 6.9 Airman 1st Class Nathan Fitzwater conceals himself in palm leaves using camouflaging and face paint at Andersen Air Force Base, Guam, on January 29, 2005. *(photograph by Staff Sergeant Bennie J. Davis III, US Air Force and courtesy of US Department of Defense)*

Figure 6.10 Spot the private investigator. A trainee PI uses 'mimicking' as camouflage in an urban café as she conducts a simulated reconnaissance of the target location. The PI is third from the left. She blends in so well with her surroundings you may have overlooked her. *(Author's collection)*

As we discussed in the section above, camouflage aids in concealment of the recon unit to guard against discovery. To preserve life in the presence of danger is to a large degree aided by personal protective equipment (PPE).

Although there are specific pieces of equipment for certain hazardous conditions such as biological, radiological, toxicological and chemical, this section focuses on those conditions found in situations that do not feature such hazards. If the term ‘combat situations’ could be used, then it is these types of situation that we will discuss. However, it must be prefaced by saying that in urban recon, the types of PPE to be discussed may not be appropriate as it would defeat the natural camouflage of wearing casual civilian clothes. It is a matter of judgment and common sense about what is needed and how that might be balanced with other aspects of the mission.

Head Protection

It has been long recognized that head protection is vital and the history of the helmet dates back to several hundred years BC. Current technology in head protection is well advanced, offering mitigation against a range of hazards including blunt trauma, bullets and shrapnel. Helmets also help mitigate the impact of bumps and falling debris by distributing the force so that it is less likely to be transmitted directly to the skull. ‘Rails’ are often a feature of the modern helmet as digital cameras and night vision devices can be attached.

Torso Protection

Like head protection, protection of the torso has come a long way since the days of armour suits. Today’s ballistic vest will absorb the impact of bullets and shrapnel as well as the effects of knife attacks. They are lightweight and available in a range of sizes that cover various areas of the body (e.g. front, back, sides of the torso, neck, groin). This is important for scouts, as silent movement and agility are often key factors for mission success. A ballistic vest that allows a scout this ability can therefore be customer selected for the mission and dangers that are likely to be faced.

Eye, Ear and Limb Protection

Other vital body parts that warrant protection are those of the two most important senses; eyes and ears. There are a number of types of lightweight

yet highly protective glasses/goggles that can be selected to suit the individual scout. Ear protection varies from small ‘plugs’ to large ‘muffler’ type devices. Although the latter are less likely for recon work, the former have great application, as they can be customer engineered for the person’s ear shape and come in a range of sound mitigating densities. This allows for a dulling of sound through to a very high degree of blunting.

Hands and knees are the other parts of the body that require protection. There are a number of glove styles for climate conditions and the type of activity required to be performed during the mission. For example, there are fingerless gloves that are lightweight yet strong enough to protect the hands and knuckles from injury, but allow the fingers to perform fine motor tasks. There are also mittens that protect the hands from cold, but the fingers can be exposed to do brief tasks via a ‘flap.’ Knee pads come in a range of protective designs thus allowing personal choice for scouts, based on duration of mission and tasks likely to be encountered.

First Aid

An essential skill to have generally in life is that of first aid. Arguably, everyone should know some first aid in order to look after one’s self. This is particularly true in a reconnaissance context, as scouts will be operating ahead of any support group that could offer medical aid in an emergency.

Although this book cannot cover all the aspects of a first aid course, it will draw attention to the fact that first aid should be one of the foundational skills learned by all reconnaissance operatives. There are many accredited courses offered by training providers that cover all of the essential topics that can be studied in one to three days. These courses are usually run as hands-on workshops where theory is taught first, followed by practice. A certain level of proficiency is required to pass and obtain a certificate of competency. Skills that are common to many first aid courses include:

- Dealing with an unconscious person.
- Performing cardio-pulmonary resuscitation (CPR).
- Controlling bleeding.
- Dealing with broken bones and fractures.
- Treating burns and electrocution.

- Bandaging sprains and strains.
- Managing other life-threatening situations until evacuation or medical aid arrives.

Aside from knowing these skills, each scout should carry a small personal first aid kit for treating minor cuts and other less life-threatening injuries. Such kits are commercially available and vary from the small basic kit to large, more comprehensive collections of medical supplies. These kits are marketed under different names such as 'leisure,' 'sport,' 'marine,' 'workplace' and 'vehicle.' These names indicate the type of supplies the kit will contain, the size, as well as the different types of injuries that are anticipated. For instance, a first aid kit on board a boat (i.e. *marine*) will contain items that are different from a kit labelled *sport*.

Table 6.3 Suggestions for a scout's small personalized first aid kit.

alcohol wipes	safety pins
antiseptic cream	scissors – small
cotton swabs	self-adhesive bandage – large
insect repellent	self-adhesive bandages – small
latex gloves	sunblock lotion
medical tape	triangular bandage
non-woven sterile pads	tweezers

For the purposes of reconnaissance, a scout may wish to create his or her own personalized kit comprising items from different kits and in their own unique container. An example of a personalized kit is shown in Table 6.3. Such a first aid kit could be housed in a watertight food storage container that is sized to fit into the operative's pocket. If it is clear, the operative can see if any items are missing before undertaking the mission. Scouts can customize their kits for their individual purposes with a few various sized self-adhesive bandages, gauze patches, cotton buds, antiseptic, tweezers, a small scissor, a sewing needle (for helping to extract splinters from under the skin) and a few over-the-counter pain tablets.

Other versions are possible depending on the risk and size that is able to be carried. Recall, the first aid kit needs to 'fit in' with the scout's cover

story. In this regard, a scout could use an item normally carried, to disguise the first aid kit. An example could be using an old double D-cell flashlight/torch to hold the first aid items. If the scout is operating in the open, as might be the case of law enforcement or military, then this requirement is not necessary. But for any scout operating under a cover, it needs to be considered.

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Camouflage.
- Mnemonic.
- Phonetic alphabet.
- PPE.
- Prowords.
- SLR.
- Special reconnaissance.

STUDY QUESTIONS

1. Explain the advantages of having a flashlight with blue, red, green, and white LEDs for reconnaissance work.
2. Locate two potential sources of unclassified satellite imagery that could be used in place of other forms of aerial reconnaissance.
3. Using your answer to Question 2, discuss the 'pros and cons' of using commercial satellite imagery in reconnaissance.
4. Describe two visual methods that a scout can use to judge distances to a target a few hundred meters away.
5. List several strengths and weaknesses of mud maps.

LEARNING ACTIVITY

Review and memorize the phonetic alphabet that is listed in Table 6.2. Then ask a friend or colleague to test you. You need to aim for one hundred per cent accuracy.

* Robert Bauer, *See No Evil: The True Story of a Ground Soldier in the CIA's War on Terrorism* (New York: Crown Publisher, 2002), 32.

Chapter Seven

The Reconnaissance Mission

Planning any military, law enforcement or intelligence operation should be preceded by reconnaissance.[33] Plans cannot be made without 'eyes on the target.' This invariably takes the form of a physical visit to the target site, although physical observation can be supplemented by information obtained from data through open-sources. Online mapping services and satellite images that are downloadable from commercial websites are prime examples of such open-source information.[34] Other types of information can include descriptive data about local populations, their cultural subtleties, religious beliefs and habits, as well as how best to manoeuvre on foot or vehicle, and purchasing goods and services. The list could be long, but these examples provide a good idea of the types of questions open-source information can answer. This type of information is used in what is termed *civil reconnaissance*. Civil reconnaissance 'Is not the covert collection of information by agents employed by [friendly] forces but rather data obtained from open sources, primarily through interaction with the host nation population, review of open source information found in various mediums and academic research.'[35] Its purpose is to 'Remove the enemy's ability to move freely in amongst the local population by unravelling the various aspects and systems he relies on to provide his secrecy.'[36]

It is important to note that although a lot of information is available via the Internet this data needs to be used with caution as the 'currency' and the accuracy cannot be totally verified. Information obtained from the Internet

can offer assistance, but should never be a complete substitute to having a scout observe and report.

> There is a saying that, '*Everyone knows someone who knows someone who has been there*… .' What this means is that someone you know, or someone who knows someone, has been to the place where you are planning your recon. This 'someone' can be in the form of a person, or it can be 'someone' in the form of a published article, book, magazine or information posted to the Internet (i.e. a blog). In the case of the latter, this could be a travel log, a travel diary, travel photographs or satellite images on one of the commercial, but free to view web sites.

Like the Internet, there is a wealth of information contained in print; books, magazines, journal articles, newspaper reports, pamphlets, brochures, and so on. These are usually contained in libraries, but some have been digitized and are also accessible via the Internet. In fact, many libraries that used to hold hardcopy reference material now hold electronic versions of the same titles and offer them for loan through download or email to subscriber members.

Generally speaking, information that has been published by a publishing house carries more weight in terms of accuracy and reliability as the original manuscript is likely to have been reviewed in some way to assess its trustworthiness. Commercial publishers rely on maintaining a reputation and hence cannot afford to publish questionable material. For instance, journal editors often have submissions for publication peer-reviewed before they proceed to print. This is not the case with all Internet-based publications. Anyone can post material to the Internet and although genuine in appearance, its veracity cannot be assured. This is not to say that all material appearing on the Internet falls into this category, but some may. Large commercial companies with codes of good business conduct are likely to publish better quality information. The point is, be discerning and back it up with visual confirmation.

The other point is that non-scout obtained information should only be used to either triangulate other data (i.e. to confirm or refute findings of other unclear pieces of information), or as part of planning the reconnaissance mission itself.

COMMAND AND CONTROL

The tenets of the theory of reconnaissance (see Chapter 3) concern themselves with the seven principles that need to be observed when conducting a recon mission. These tenets state that there needs to be:

1. A clearly stated aim.
2. Central coordination for the mission.
3. Redundancy.
4. Have a universal capability.
5. The ability to perform independent action.
6. Have a reliable communication system.
7. A requirement to practise deception.

In order to organize a mission that can do all these things, a command and control system needs to be in place. In the military this command and control system is abbreviated as C^2.

Command and control is a simple way of saying that there is a person designated as the commander and that person has authority to give directions about the mission. He or she is therefore able to set the mission's aims and instruct scouts at various points in the mission or as events unfold. The commander can also make available equipment and facilities as well as other personnel to assist the mission.

In a military situation, this might take place in a dedicated *command bunker, control center* or *war room*. In a small operation, say in law enforcement or security, it might be as simple as a vehicle that operates in the vicinity of the recon team, or a person or a few staff in a room back at headquarters. Or, in an intelligence setting, it might be that the scout is sent out on their own with no central, real-time command input.

Some common models for command and control include:

1. Operating from an integrated control center that is also coordinating other aspects of a large operation (where recon is one aspect of the overall operation as opposed to a discrete operation in itself).
2. A separate reconnaissance command post that would relay information to and from a central command center.
3. Operating from an intelligence cell as part of a combined function.

4. Recon teams operate independently but report directly to the central command center.

There are advantages and disadvantages of each method of operating, but in the end it is conditioned upon the aim of the mission, the scale of the operation, the resources available and the preference of the commander overseeing the mission.

COMPLEXITY CAN DESTROY A MISSION

Although a lack of information can jeopardize a mission, the opposite is also true; too much information can swamp the ability of scouts to carry out a mission. So, consider this adage: just enough information needs to be supplied in order to carry out the mission, with perhaps a little extra to ensure a safe margin for success, but not to overdo it.

Mark Owen (pseudonym), one of the US Navy SEALS who participated in the 2011 operation to kill Osama bin Laden referred to those who 'over plan' as 'good idea fairies,' planners who add their thoughts about all possible contingencies.[37] Owen acknowledged that there is the temptation to add various options (that result in complications) and extra gear (for safety issues that may never arise) to missions, but ultimately these good ideas are to the detriment of the mission.

The hallmarks of a successful recon mission include the following factors:

- Establish the aim or goal of the mission. This will be based on the intelligence requirements (IR) set by an analyst in the unit assigning the task.
- Establish the location of the information (the *target*).
- Determine the most expedient method of approaching the target and what men and materiel are required.
- Determine the method of observing the target and for recording and transmitting information relating to the IR to those who have requested the information. This will require maintaining the greatest distance from the target, yet being able to obtain the data, as well as how radio traffic will be handled.

- Determine what concealment (i.e. camouflage) might be required during the mission.
- Determine what security measures will be required if either 'break contact and return,' or 'break contact and continue with mission' are ordered during the mission. The former is if the recon unit is discovered and has to engage with the enemy with the aim of abandoning the mission, and the latter is where the unit is ordered to disengage with the opposing force and continue with the mission to gather the information. In either case, security elements will need to be in place to suppress the enemy so that the recon unit can break contact.

KEY PHASES OF A RECONNAISSANCE MISSION

There are five phases to a successful recon mission. Any mission should start with:

1. The planning phase and then move to the operational phases of:
2. Infiltration.
3. Detection avoidance.
4. Exfiltration.

These phases are then followed by:

5. The post-mission phase.

Planning Phase

The planning phase usually starts with making a determination of what is required and what the reconnaissance unit will face in executing the mission. In this regard the mnemonic METT-T can aid planning as it considered the following factors:

- Mission (What are the tasks and what are the limitations that the mission may encounter?).
- Enemy (What is the enemy's composition and disposition, as well as its strengths and weaknesses? This is also termed *IPB*, or intelligence preparation of the battlefield or battle space).
- Troops (What is the state of the troops available for the mission? Their composition and disposition, as well as strengths and weaknesses).

- Terrain (What are the key features of the terrain? Cover, obstacles and field of fire).
- Time (What time is available for planning, rehearsals, as well as departure time?).

> Even if you have only one option available, it means you still have a plan.*

The mnemonic can also include a C at the end, METT-TC, and this C represents civilian implications.

The purpose of the mission will vary depending if it is a military operation or one involving law enforcement, security or intelligence, but as a general rule-of-thumb, there are five basic categories that can define a mission. These purposes are to:

1. Observe.
2. Locate.
3. Determine.
4. Confirm.
5. Detect.

Planning will include establishing the lines of authority to approve certain actions during the execution of the mission, communication protocols and codes to be used, as well as control measures. Control measures are a consideration that will assist the recon unit to accomplish its mission by minimizing risks. Control measures will vary from mission to mission, but a summary of some of the key measures includes establishing:

- A starting point.
- Rate of advance.
- Communications.
- An assembly or staging point for long-range missions (see Figure 7.1). This is also known as a *rendezvous point* (abbreviated RV). Such a location can also facilitate the caching of equipment and supplies.
- A rendezvous or check point(s).

- A rallying point (should members of the recon team become separated or if the mission is discovered).
- Routes (those that are considered safe and those to avoid).
- Boundaries forward edge of the hostile territory or battle area.
- Times/timing/duration relating to the aspects above.

> 'The maximum period of safety is the sum of the time it takes to… [transmit] the [radio] message, capture it, decipher and understand it and decide what is to be done about it.'*

SMEAC (pronounced *smee ack*) is a mnemonic for situation, mission, execution, administration and logistics, command and communications (or signals) used by military, police and emergency services as part of the planning phase of missions. It is also used by recon units to set out the important decision items in an easy-to-remember format:

- Situation (A summary of the current situation).
- Mission (A single sentence statement about the task's objective or what needs to be done).
- Execution (The basic plan to accomplish the mission. Although presented in simple terms, it needs to contain as much detail as possible so that troops carrying out the mission can do it successfully. This aspect of the SMEAC may contain visual aids such as diagrams, maps and overlays).
- Administration and Logistics (Composition of the teams that will be involved, how the plans will be executed, what the arrangements are for food, water, fuel, sleeping, equipment as well as the paperwork for logs and other recordkeeping requirements).
- Command and Signals (A clear summary of who is in command and the legal authority for carrying out the mission. Directions need to be given as to how and when teams will communicate, e.g., the two-way radio channels or frequencies, cell/mobile telephone numbers, code words to be used for predefined situations, etc.).

If you are a member of a recon team, you need to assure yourself that you understand:

- The mission's objective.
- The individual tasks that need to be accomplished.
- Your role in the team.
- The timeframes and criticality of the mission.

Figure 7.1 A staging point in the Australian outback for a group of hikers. The location was identified by a scout tasked with locating the best place to set-down stores for the group's resupply. *(Author's collection)*

To do this, you need to be what is often called an 'active listener' (i.e. re-stating or paraphrasing what you have heard for clarity), take notes and ask questions if any aspect of the mission is unclear, or raises concerns if safety or ethics (see Chapter 9) appear to be an issue.

Infiltration Phase

This is the stage of the mission where the recon unit embarks on the mission, but all depends on the area that needs to be traversed as to the method of infiltration (shortened to *infil*). If there is a defined line between

the OPFOR and the recon unit, then methods that allow the unit to either go over or around, the 'line' are needed. It may be that the unit needs to be airlifted to a starting point behind the line or it may need to be dropped by parachute at the starting point.

Circumventing a demarcation line might be done by four-wheel-drive vehicles or motorcycles, or if waterways are involved, by boat. If the demarcation line is 'porous' in that it will allow the recon unit to move across the line, then stealth may be all that is required to infiltrate the opposing side.

Execution Phase

The execution phase is where the intelligence requirements (IR) are perused. At this stage, the recon unit will have effected the infiltration and made their way to a post where they are in a position to make the necessary observations and record the details for transmission back to the mission commander.

If the planning phase was done well, then the unit will have avoided the hazards/threats that would have stopped the mission, or they were able to outwit them because they were aware of their presence (i.e. via METT-TC information). It should be noted that *hazards* and *threats* are distinct and different. Hazards are objects and events that occur in nature, whereas a threat is either human or human controlled (e.g. an unmanned aerial vehicle). The reasoning for this is that a threat requires capability and intent to do harm. The unit leader will have also established the control measures, and these will have helped make the arrival at the target as smooth as possible.

Observation Posts

An observation post (OP) can be any position where scouts can 'stake-out' or observe the target area of interest (TAI). In a rural setting this is likely to be camouflaged in woodland or desert patterns, but if the OP is in an urban environment, it needs to blend in with the streetscape – for instance, a van, car or a rented apartment.

Basic Patrol Formations

For reconnaissance missions where a foot patrolling function is required (e.g. wooded or rural areas), there are a few time-tested formations that scouts should be aware of:

1. Single file.
2. Box.
3. The diamond.

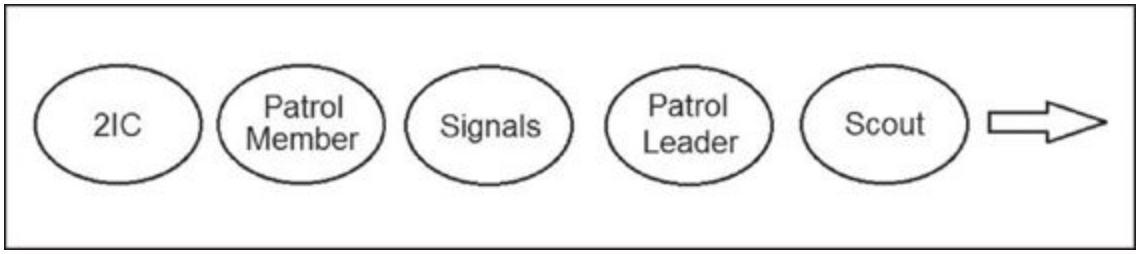

Figure 7.2 Typical single file patrol formation.

These formations are shown diagrammatically in Figures 7.2, 7.3 and 7.4. Although each can be used in either open or close-country, and during the day or night, the choice might reside on whether it is a military reconnaissance mission where the patrol may encounter enemy fire (and hence issues such as fire power, flank protection and breaking contact will be of consideration) or a recon by say, sheriff's officers where they may simply be scouting the location for the service of a court order where they anticipate little 'resistance.'

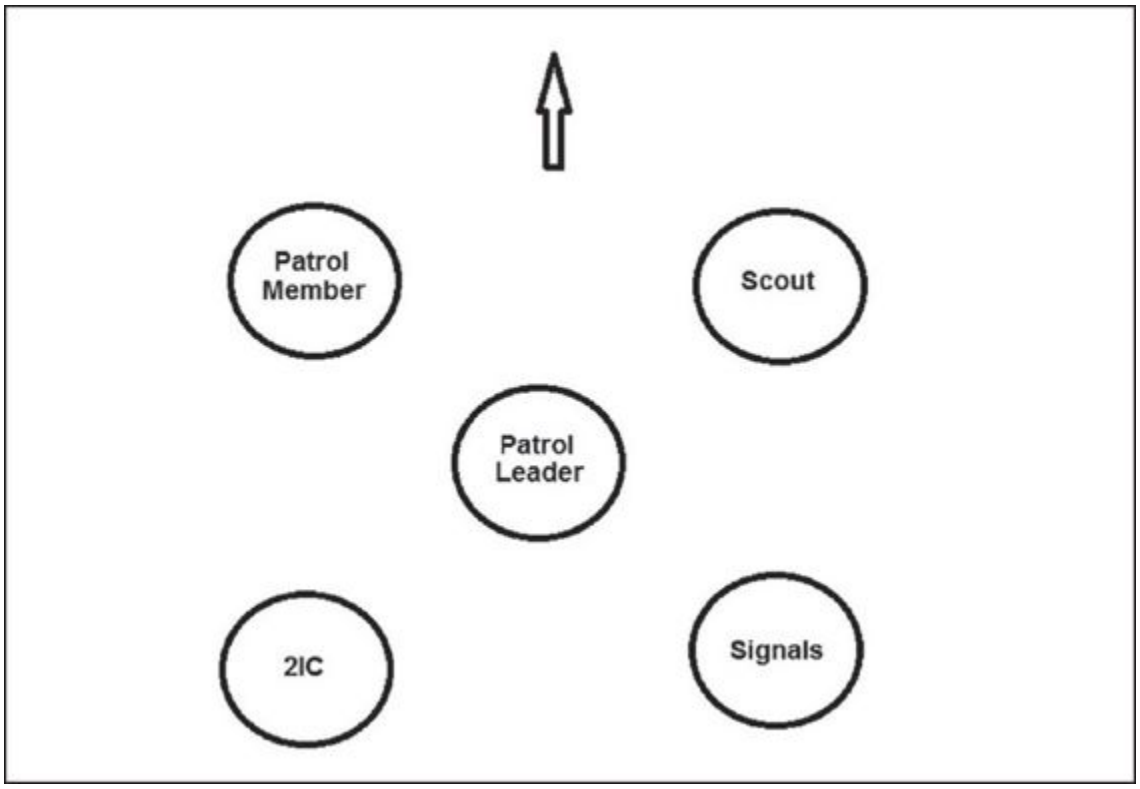

Figure 7.3 Typical box patrol formation.

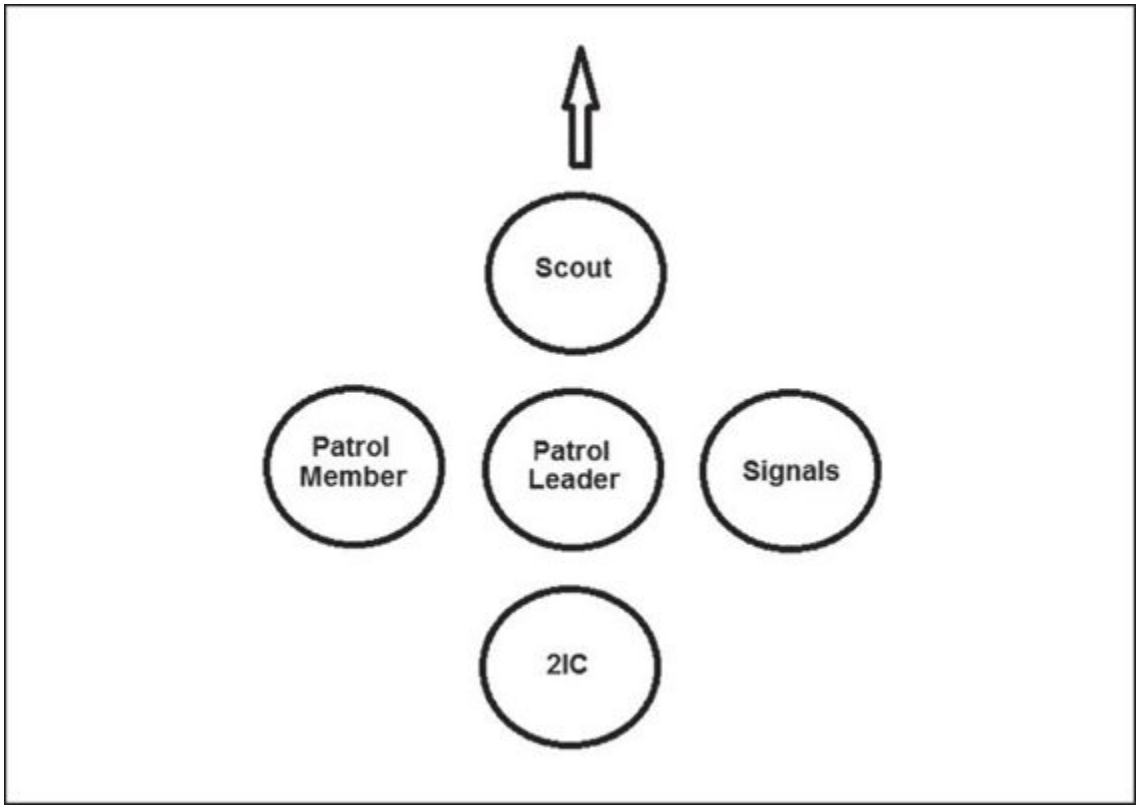

Figure 7.4 Typical diamond patrol formation.

Exfiltration Phase

The same methods used for infiltration can be used to exfiltrate (shortened to *exfil*) reconnaissance units. If the unit however, has made contact with the OPFOR and is engaged in a fire-fight, then the security procedures put in place during the planning phase will be operationalized, but this is a different situation to simple exfiltration. Nonetheless, GOTWA is a mnemonic for a five point contingency plan that can be used for return/retreat under unfavourable conditions, and stands for:

- **G** (Where am I *going*?).
- **O** (Who are the *others* I'm taking with me?).
- **T** (What is the *time* I am due to return?).
- **W** (*What* am I required to do if I am unable to return?).
- **A** (What are the *actions* I need to take if I become a casualty?).

In all other circumstances, exfiltration should be accomplished with the same secrecy as the infiltration phase unless the reconnaissance mission is part of a counterintelligence operation. In such cases the intended outcome may be for the recon mission to be discovered so that the OPFOR misinterpret this information, thus leading to it becoming confused or disorientated. Nevertheless, normally all of the detection avoidance measures listed in the preceding section should be followed on departing the target area.

Post-Mission Phase

After each mission, the recon unit will be debriefed. This may be formal in a one-on-one interview or it may be done less formally in a group situation, or it may only involve the unit's leader. The type and extent of the debriefing will be based on the needs of the intelligence personnel. However, some systematic method of obtaining the essential intelligence requirement will be used, such as the mnemonic SALUTE (this may take place in addition to confirming the information that was passed on from the observation post during the mission). The letters SALUTE stand for:

- **S**ize.
- **A**ctivity.
- **L**ocation.
- **U**nit.
- **T**ime.
- **E**quipment.

This would be the bare minimum that would be required and depending on the mission, maps showing specific details of intelligence requirements could be requested, as well as other intelligence items that are priorities for the commander and/or his or her intelligence officers.

A segment of the debriefing should ideally cover lessons learned. Typically, this involves discussion of what went right and what went wrong so that the strong aspects of the mission can be used again, and the flaws be avoided. This type of debriefing can lead to identifying specific follow-up training in order to improve skills, the need to acquire specialized equipment or to develop better operating procedures.

MISSION REPORTING

Message Writing

Writing field messages has traditionally been taught along the lines of answering the *Five Ws*; who, what, when, where and why?[38] It is also known as the *Kipling Method* if *how* is added.[39] It is based on Rudyard Kipling's poem, 'I Keep Six Honest-Serving Men.' The method is also known amongst journalists and law enforcement investigators as the *Five Ws and H* (and is sometimes abbreviated as 5W1H). This is a perfectly acceptable way of recording the details for transmission to commanders, but messages should not contain opinion; that is your interpretation of what you see. Message should only contain facts. For ease of recall and for aiding in the collection of standardized information items, mnemonics can be used.

Some organizations may specify the mnemonic that is to be used, so there will be little choice other than to accept it. But if no such dictate is in place, then one or more of the following selected examples could be used depending on the mission and information required. This section exposes

you to a few report mnemonics that could be used in reconnaissance missions.

Surveillance Logs

Pivotal to a scout's observation is his or her ability to record what is seen. To aid this, a surveillance log is used to record all activities in chronological order (known as *chronicling*). Although the paper-based method is shown in Table 7.1, logs can be electronic and used on a variety of portable, mobile or hand-held devices. The template in Table 7.1 lists the essential data items that might be found in a military observational log, but other information items can be added or the ones shown, or removed or substituted with labels common to the nomenclature used by particular units or types of missions.

Table 7.1 An example of a surveillance log.

SURVEILLANCE LOG			
Date		*Mission*	
Time	*Location*	*Event*	*Comments*

Law enforcement scouts might use a different format and list different information items that are more meaningful to their mission. Table 7.2 shows one such log as it relates to reconnaissance of a building suspected of being involved in organized crime. Other possible formats might include some of the mnemonics discussed in this book. For instance, OCOKA, METT-TC, SAD-CHALET, and SALUTE. The point is that it is important to record information central to the mission. Whether it is on paper or electronic is not critical, but what matters is that the key data requirements are collected. These need to be captured in order to aid analysis and decision-making.

An alternative to the surveillance log might be some form of photographic log where the images are records along with a time and date 'stamp' on each image.

First Responder at Scene Mnemonic

SAD-CHALET is a prompt that can be used by recon units who may be first on the scene after perhaps, a natural disaster, calamitous event or an ambush or skirmish as it provides specific information about the incident:

- **S**urvey (site).
- **A**ssess (the situation).
- **D**isseminate Information (to command).
- **C**asualties (numbers).
- **H**azards (types, e.g. debris, wreckage, unexploded ordnance, booby-traps, toxins, etc.).
- **A**ccess and egress.
- **L**ocation (exact).
- **E**mergency services required (medical, fire, rescue).
- **T**ype of incident (crash, accident, derailment, ambush, skirmish, etc.).

Table 7.2 An example of a law enforcement observational log.

Sex	*Age*	*Hair*	*Appearance*	*Escort*	*In (hrs)*	*Out (hrs)*
Male	Approx. Mid-30s	Dark blonde short	Tall height, medium build, fair skin. Wearing a fluro yellow singlet, cream shorts and black thongs.	Nil	1500	1518
Male	Approx. Mid-40s	Dark brown, short	Average height, medium build, tan skin. Wearing black cap, navy shorts, khaki shorts, white volley shoes, white high ankle socks	Nil	1506	1529
Male	Approx. Mid-30s	Dark brown, short	Average height, medium build. Wearing plain white short sleeved shirt, dark sunglasses, white full length cargo pants, cream Nike sneaker shoes.	Nil	1515	1517
Male	Approx. 50ish	Grey, bald	Tall height, over weight. Dressed sloppy, wearing round reading glasses, plain pale blue collared dress shirt, cream full length dress pants, black leather dress shoes, shirt un-tucked, scruffy hair.	Nil	1517	1545
Male	Approx. Mid-40s	Dark brown, short neat hair style	Tall height, medium build. Wearing black suit, white collared dress shirt, plain black tie.	Nil	1517	1550
Male	Approx. Mid-40s	Light brown, bald	Short height, medium build. Wearing black suit, pale blue and white striped collared dress shirt, no tie, black patent leather dress shoes, dark sunglasses.	Nil	1518	1610

Target Assessment Mnemonic

CARVER is a prompt for recon units who may have identified a target and are asked to evaluate it. In this regard, the target may be one of opportunity

or it may be the aim of the mission.

- **C**riticality (What is its importance in the wider context of the mission?).
- **A**ccessibility (Can the target remain under observation until a strike is effected and then safely exfiltrate?).
- **R**ecuperability (What is the likelihood that the enemy is able to repair, replace or bypass the target once destroyed?).
- **V**ulnerability (Is the target able to be destroyed by the recon unit?).
- **E**ffect (Are there likely to be any political, legal or other ramifications if the target is destroyed?).
- **R**ecognizability (Can the target be recognized under the current lighting/weather conditions?).

Battlefield Terrain Mnemonic

OCOKA is an easy way to recall the essential pieces of information about the hostile territory or battlefield, or a potential battle area. The letters stands for:

- **O**bservation and fields of fire.
- **C**over and concealment.
- **O**bstacles.
- **K**ey or decisive terrain.
- **A**venues of approach.

Observation is the ability to see locations/area and acquire targets. Fields of fire are the weapons that are able to be brought to bear on the target directly (line of sight) or indirectly (e.g. via artillery). Cover is classified as objects that afford protection from enemy fire, whereas concealment is akin to camouflage; the ability to blend in and 'disappear.'

Obstacles include a host of man-made or naturally occurring features that might stop, impede or divert forces advancing or withdrawing from the battlefield. Key or decisive terrain is the part(s) of the battlefield that if controlled would afford a force a distinct advantage over the other side. Avenues of approach refers to either an air or land route to the key terrain for a force of a given size and composition.

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- CARVER.
- Chronicling.
- IR.
- METT-TC.
- Surveillance log.
- OCOKA.
- SAD-CHALET.
- SMEAC.

STUDY QUESTIONS

1. Explain what 'eyes on the target' means in terms of a reconnaissance mission.
2. Explain why a lack of planning as well as an overly complex plan can place a reconnaissance mission in jeopardy.
3. List the *Five Ws* of report writing.
4. State the alternative name that is sometimes used for a *staging point*.

LEARNING ACTIVITY

Describe the key phases of a reconnaissance mission and then discuss how these phases might apply in one of the following contexts: military, law enforcement or civilian emergency services.

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* Military proverb.

* H.H.A. Cooper and Lawrence J. Redlinger, *Catching Spies: Principles and Practices of Counterespionage* (Boulder, CO.: Paladin Press, 1988), 177.

Chapter Eight

Defeating Hostile Reconnaissance

If *reconnaissance* is the observation of people and places in order to obtain information, then *counter-reconnaissance* is the collection of processes and procedures that can be used to prevent this from happening. With the increased awareness in counterintelligence practices post-9/11, arguably those who might be the target of reconnaissance have increased the complexity of their effects to guard people and places, so recon needs to be more sophisticated. In order to do that, we need to understand what counter-reconnaissance is.

The term *counter-reconnaissance* is defined by the US Department of Defense as 'All measures taken to prevent hostile observation of a force, area or place.' For our purposes, we have extended this definition to include *people*.[40]

According to the theory of reconnaissance, which we discussed in Chapter 3, there are two premises that underpin a successful reconnaissance mission; the ability to conduct surveillance (i.e. close observation) and to do this so that information (i.e. facts) about people/places can be collected. It therefore follows that if either or both of these elements are not present, then reconnaissance cannot take place, thus defeating any attempt by an opposition to gain data for decision-making. In short, the objective of counter-reconnaissance is to deny an OPFOR information. Counter-reconnaissance facilitates this using passive measures (defensive countermeasures) or active measures (offensive countermeasures), or both. Counter-reconnaissance in this regard is related to counterintelligence; that

is deterring, detecting, deceiving and neutralizing an opposition's information collection efforts[41] as we will discuss now.

DEFENSIVE COUNTERMEASURES

Defensive countermeasures are a group of practices that at their core obscure or block, observation and/or present a false image of people and places. These vary from situation to situation, but for illustrative purposes, they comprise the following categories:

1. Prevent hostile scouting parties approaching key locations.
2. Locate those that are not deterred.
3. Concealment of key locations.
4. Present a deceptive image of what is actually located at key locations.

and/or

5. Neutralization of any hostile scouting party that has penetrated other defensive countermeasures.

Principles of Deterrence

Although the term *deterrence* is used in everyday conversation to mean some disincentive to do something, in the military, law enforcement and security context it is based on a set of assumptions that must be present before the disincentive can be effected. These premises include the following conditions. There must be a consequence to the actor; the consequence must be of such a magnitude that it will be undesirable to proceed, and the threat of inflicting the consequence is real, that is, it is not a 'hollow threat.'

How counter-reconnaissance practitioners translate this principle into action for any given situation will vary. For instance, on a battlefield it may be the use of large open or cleared space that presents a potential kill zone for approaching scouts. For an air force, it may be the placement of radar and surface to air missiles to detect and destroy any approaching reconnaissance aircraft. And the list goes on.

In a law enforcement and security context, it may be the use of a buffer zone around say, key facilities to act in the same way as a kill zone does in

the military. In this case it would be the ability to detect and apprehend those trying to penetrate the area/installation, or obtain target acquisition data (as might be the case with guerrillas, insurgents or terrorists).

Principles of Detection

Detection is the ability to notice some activity before that activity achieves its objective. In the context of counter-reconnaissance, this means that practitioners need to be alerted to scouting activities of an OPFOR in order to intervene before hostile scouts are able to obtain their intelligence requirements (IR).

The systems set-up to do this will be as diverse as the situations in which counter-reconnaissance practitioners have to operate. These systems might comprise purely human actions such as observation from a vantage point, mechanical devices (e.g. trip wires) or electronic devices (e.g. motion detectors). It may also include monitoring of wireless (radio) communications, voice and data. Of course, it may include a combination of any of these approaches. In any case, systems need to be in place to allow the counter-reconnaissance practitioner to be able to realize that hostile action is underway in sufficient time to react effectively.

Detection Avoidance Measures

Measures to avoid detection are as numerous as there are reconnaissance missions. However, the fundamental principles remain essentially the same. These countermeasures can be categorized as follows:

- Use all five senses; sight, hearing, smell, taste and feel as warning signals that something may not be right.
- Adhere to the principles of concealment (as discussed in Chapter 6).
- Move silently.
- Use the terrain to your advantage (including features within an urban/suburban environment).
- Prevent equipment being carried from rattling, rubbing or squeaking.
- Maintain secure radio transmission procedures during the mission.
- Avoid *unnecessary* risks.
- Be prepared to improvise and change plans to meet unexpected hazards/threats during the mission.

- Eliminate reflections from equipment and control any lights being used (see Chapter 6 regarding the use of multi-colored torches/flashlights); a match, cigarette lighter or torch/flashlight can be seen at great distances at night.
- Use diversions, decoys and ruses to draw attention to areas other than where the recon mission is operating (which may be affected by units other than the recon team).
- Use of an earphone/earbud for listening to two-way radio transmissions because the sound of a radio through its speaker is quite distinct and this sound can carry a long way, especially in still conditions.
- Eliminate or minimise electronic communications (i.e. twoway radio voice and data transmissions).
- Ensure that no litter is left as the team makes progress so the OPFOR does not discover the mission.
- Control any tendency to panic if things go wrong, or events unfold that surprise you.

The ways these principles are operationalized, is up to the imagination of the recon unit leader and the materiel and resources available to him or her. A final axiom to consider is that a scouting mission should use the smallest number of scouts to lessen the chance of detection; 'more' presents a larger target for the OPFOR to detect.

OFFENSIVE COUNTERMEASURES

Principles of Deception

Deception is a tactic that provides a means by which people and/or places (which include a raft of objects such as bivouacs, armour, artillery, missile installations, radar sites, radio repeaters, and so on) can be camouflaged, concealed or decoys (abbreviated CCD for camouflage, concealment and decoys) created to divert attention away from the true targets to useless objectives that waste the OPFOR's time, energy and resources.

Camouflage

Camouflage is both an art and science.[42] It is an art in the sense that the patterns that are created to allow objects to blend-in or distort their profiles,

etcetera, takes an eye for detail and how these patterns fit into the surrounding natural environment; it is not just child's play drawings. It is a science because it takes an empirical understanding of what techniques will work in certain situations and what materials are required to achieve this. Although it is not possible to discuss all the possible ways that camouflage can be used, it is worthwhile outlining a few examples as a way of illustrating the principle:

- Troops employing camouflaged clothing and face paint.
- Vehicles painted in camouflaged patterns to fit in with desert, forest, jungle or other terrains.
- Smoke screens to observe wide areas or locations.
- *Drape* and *flat-top* camouflaged nets to obscure radio trucks.

Screen: 'In surveillance, camouflage and concealment, any natural or artificial material, opaque to surveillance sensor(s), interposed between the sensor(s) and the object to be camouflaged or concealed.'*

Concealment

There is a difference between *cover* and *concealment* and this distinction needs to be pointed out. Cover is protection that is afforded by obstacles against hostile weapons, whereas concealment is a way to obstruct opposition force surveillance. Objects that provide cover can also provide concealment and *vice versa*. Nevertheless, the term *concealment* is used in relation to preventing observation, and it is related to the basic principles that underpin the theory of reconnaissance. These principles espouse that certain factors will attract attention of an OPFOR, including:

- Motion.
- Higher profiles.
- Clear outlines.
- Profiles that do not blend into the surroundings.
- Profiles that are silhouetted against skylines or lighter backgrounded objects.

Therefore, in order to frustrate hostile reconnaissance, any step that is able to be taken to limit motion, reduce (or alter) the object's profile, eliminate an outline, make the object blend in with surroundings, the skyline or background, will help conceal the object. If the object is concealed, then it cannot be observed and as a result, reconnaissance cannot take place.

Take for instance the example in Chapter 5 of the notional NATO reconnaissance mission conducted against a group of insurgents. In this example scouts observed an antenna array mounted on the roof of the target building (see Figure 5.2). Through some basic analysis, they were able to determine the use of each antenna and this led to operational commanders being able to better plan the mission-in-chief. Nevertheless, if the guerrillas had constructed a screen around the antennas that concealed viewing from the ground, it would have prevented the reconnaissance team from making these observations.

Decoys

Decoys are an interesting and clever way to attract the attention of an OPFOR to an area with no meaning. Like duck decoys that hunters use to attract passing fowls, decoys of important objects and people can be constructed to attract hostile scouts.

The history of warfare shows that decoys have been made of inflatable rubber, wood, canvas, plastic to replicate trucks, tanks, aircraft, fuel depots and any other object that might prove a tempting target for scouts, or to project an illusion of either greater strength, or less strength, depending on the deception that is intended. For instance, a whole fleet of supply vehicles could be constructed to project the impression that a major resupply operation is underway in an area/direction that is not related to where the true re-supply operation is taking place. If performed well, this deception would have the effect of having OPFOR scouts report this deceptive information and hence, sending OPFOR resources in a direction that has little or no impact on the friendly force operation.

Decoys can also be in the form of body doubles. If the perception is that an operation is being planned for a particular area and this would involve a high-ranking officer or perhaps, a political leader being present, then a body double could be used to project this false information.

As an illustration, a national political leader is scheduled to visit troops on service in a foreign war zone. The area is subject to rampant insurgent activity and duplicity amongst the local allied troops. So when the political leader's VIP aircraft taxies to a safe area of the military base in the hostile country, a body double escorted by an entourage of close personal protective operatives transports 'the double' to a waiting vehicle. This vehicle and its security convoy escort him to a location that would normally be reserved for housing visiting dignitaries.

Knowing that this will be observed by those untrustworthy elements of the local forces and reported to insurgents who would be interested in launching an attack, this all takes place in lightly screened situations, that is with some level of overt security to protect the VIP aircraft, but not enough to prevent surveillance by hostile individual scouts or reconnaissance teams.

What the hostile scouts do not realise is that the person they have observed (and perhaps photographed) being driven out in the protective convoy is a body double and the real political leader is dressed in military fatigues and looks like any number of those performing the support roles around the aircraft. This person then enters a standard military vehicle that might be there to convey some of the base's ranking personnel who greeted the politician, away to another venue for his meetings and his address to the troops.

Principles of Neutralization

This could be argued as the most subtle and sophisticated methods of defeating hostile reconnaissance. Although there are many variants of this tactic, it is essentially a 'battle of wits' that is fought not in the open, but in the areas of human perception.

Confused? Well, you should be because neutralization is akin to counter-espionage, and one of counter-espionage's functions is to feed the opposition 'Disinformation, which should lead to confusion, thus disrupting the opposition's plans and allowing the agency and its client to prosper.'[43]

An example will illustrate this tactic. Assume that a state of high political tension exists between a friendly nation and an opposition country. Assume that the friendly nation's military force has been tasked to carry out an insertion to say, rescue a number of diplomats held hostage by the

opposition country. Knowing that the friendly country has a history of hostage rescues, the opposition country instructs its military and police forces to keep a vigil on any possible attempt to free the hostages. This is translated into action by deploying reconnaissance teams along its borders and along its coastline.

The friendly nation observes these hostile scouts and so mounts an operation to neutralize their information collection effects. This could be performed several ways, but for the purposes of illustrating the many and varied forms this approach could take, we will concoct a hybrid scenario that will give you the general idea of how sophisticated this method can be.

First, the friendly nation uses its intelligence service to contact a group of dissidents in the hostile country and requests them to scout a number of possible helicopter landing zones in the north of the city. Although the hostages are in the outskirts at the south, this northern approach is explained to the dissidents as a logical way in because the hostile forces will be expecting an attack from the south.

Knowing that operational security within the dissident group is less than stellar, the friendly intelligence agency is counting on a ‘leak’ to occur and the information about the dissident’s task of finding possible landing zones will be fed to the opposition forces. Once in receipt of this disinformation, it is anticipated that the hostile recon teams will be increased in the areas north of the city and along the border to the north also. To support this dissident’s deception, the friendly intelligence agency organizes for its colleagues in the military to set up a decoy staging facility along the northern border so that those scouts will notice activity consistent with a helicopter incursion of a small number of Special Forces.

As the scouting increases to the north, the reconnaissance effort to the south is diminished (i.e. as they have been transferred to the north to bolster troops there). To underscore this, a few decoy reconnaissance flights are conducted by the friendly military around the area of the north so that the hostile scouts can observe. All the while, the true operation will take place from the south and will be via fast four-wheel-drive vehicles disguised with the markings of the hostile forces.

At the point of carrying out the operation, the friendly military increase radio transmissions to and from phony military units that are supposedly operating in the area (i.e. ‘ghost armies’) and at the same time, they fake a

series of military related activities to the north and carry out a small diversion staged around the false landing zones to ensure opposition forces will continue to be drawn away from the south.

Cellular telephone and two-way radio jamming, along with other electronic countermeasures is activated in the south to cut communications back to the hostile operations center when the vehicle-borne Special Forces begin speeding across the area towards their target. Sniper units already in place in the south eliminate hostile scouts, and their communications equipment is then used to radio an 'all clear' to the hostile ops center (using an interpreter who has the same local dialect) when the temporary jamming is lifted.

In summary, neutralization is about placing information before the opposition scouts that they will perceive as true (factually) and when passed on to planners and intelligence analysts, will draw incorrect conclusions from this data. In effect, it is like the show a magician puts on; he projects an illusion. It is also like a Hollywood stage; it looks real, but it is merely a facade with no substance behind it.

In this sense we can see that neutralization is offensive, because it is active, not passive as are defensive measures. It takes great coordination, cooperation, timing and above all, needs to be grounded in plausible and realistic scenarios that the opposition is likely to believe. This latter point is important to note; what the opposition believes is plausible, not what the friendly forces think. It is about getting inside the thinking of the opposition, politically, historically, culturally and so on, in order to craft a situation they will accept as likely. Defensive countermeasures can play a role in an offensive operation, but these activities will be in support of the neutralization plan. For instance, in the diplomatic hostage rescue scenario just discussed, defensive countermeasures such as perimeter patrols, could be used by the friendly decoy forces set up in the north. But this false patrolling would not be enough to completely guard the force's operation as it is intended that the hostile forces need to be able to observe and report back. The defensive patrols will only be enough to demonstrate that the friendly forces are trying to guard their activity and while doing so give the illusion that the hostile forces were able to penetrate their counter-reconnaissance efforts.

COUNTER-SATELLITE RECONNAISSANCE

At one point in time, satellite reconnaissance was the sole domain of a nation's military for national security apparatus. This was because access to satellite imagery was so expensive that only these agencies could afford to have their own satellites or access to the images these 'birds' produced. But now, anyone with Internet access can avail themselves of satellite imagery.

Although such imagery may not be of the quality as that used by military and national security analysts, it is a matter of relativity and for an insurgent or terrorist or criminal group, Internet-based imagery may be all that is needed to plan a mission. Nonetheless, there are a number of basic techniques that can be employed to lessen the chances of being observed by satellite reconnaissance.[44] Although these techniques may not be one hundred per cent effective, any steps taken to make it more difficult for the opposition to observe, will potentially introduce some level of uncertainly into their assessments. And being able to instil uncertainty, whether it's from a civilian or military perspective, is a good tactic to use against any opposition.

Deception

Avoid Being Obvious

Drawing on the offensive principle of deception, there are a few general techniques that can be employed. The first is to avoid being obvious. Although this may seem self-evident, it needs to be stated that any actions being taken need to be disguised from the air as it would be done from the ground. If the operation is sensitive enough to avoid onlookers from the ground (e.g. you are not wanting people to wander around the object or facility taking photographs) then employ the same awareness from the air, because that is what a satellite will be doing (or an aircraft, or an unmanned aerial vehicle).

Avoid Production of Detectable Patterns

Viewed from the ground, man-made objects look vastly different from viewing directly overhead. From high above, man-made patterns are more pronounced, especially if they appear in an area where no other objects exist. As an example, the pattern (i.e. outline) of a warship is disrupted by a

series of irregular patterns painted from stem to stern, and from the waterline to the highest mast. The idea is to break-up the pattern of the ship to induce uncertainty by not having a regular predictable pattern to assess the information.

Use Natural Objects and Patterns as Disguise

If the object (or activity) that is the likely subject of satellite reconnaissance can be located in an area where the patterns and natural surrounds provide camouflage or concealments, this will go a long way to proving protection. The most obvious is to locate the sensitive object(s)/activity in the depths of a forest, jungle, or swamp; the tree cover will provide concealment. Although even this type of deception is able to be penetrated by the use of sophisticated analytic techniques such as infrared and thermal detection.

Compare the forest example to hiding an object/activity in say, the Australian outback. Although such a place would be inaccessible to even the most determined onlooker (because of the extreme remoteness and harsh terrain (see Figure 8.1)), the object would stand out in showcase fashion from the air. But, if located in a deep canyon or gorge, a passing satellite may not show the people or place due to the shadows cast by the natural landscape and the photo-interpreter may miss the detail. Though if trying to avoid satellite reconnaissance of a hostile foreign nation, this may not be effective because they may have software that compares images from various passes and triggers an alert if changes occur. A photo-interpreter would then look into the changes.

Deceptive Use of Camouflage

Yes, camouflage is used to obscure and hide people and places from observation, but it can also be used as a means of outright deception. Take for instance, a case where a friendly force deploys camouflage over a wide area to give hostile photointerpreters the illusion that there are more targets than there are, or perhaps the area covered by camouflage suggests to the photo-interpreter that it is a different variety of vegetation due to its introduced infrared signature.

Figure 8.1 Outback Australia. A view to the horizon. Although inaccessible to most people but the determined, such a location offers no concealment from any kind of aerial reconnaissance. *(Author's collection)*

Moving Targets are Harder to Hit

There is always a time delay from when a satellite image is taken and a photo-interpreter views, analyzes and draws conclusions based on the findings. There is a further delay in reporting the findings to a planner or commanders (or a *targeter*). If the operation being protected from hostile reconnaissance is able to move, then it will require another pass of the satellite for additional data to be obtained and relayed to decision-makers. In this sense, a moving target is harder to hit, but this may not be possible in all cases, though it is worth bearing in mind, perhaps as part of a neutralization counter-reconnaissance operation.

COUNTER-ONLINE RECONNAISSANCE

Recall our discussion in Chapter 5 of how scouts can use open sources of information in the preparatory stage of planning a reconnaissance mission. We looked at how freely available information on people and places could be obtained through searches of archives held in libraries and on the Internet (i.e. the surface Web and the deep Web).

If a scout can access these data items, it follows that friendly forces should consider how they display a range of information about themselves on the Internet in order to mitigate the use of this information by an OPFOR, especially when it comes to protecting critical infrastructure or VIPs.

A couple of general points to consider in terms of exercising some level of online counter-surveillance are included in this advice:

- Because the information that is posted to the Internet is visible to all, friend and foe alike, assess whether it is critical to include pieces of information about staff, email address, phone numbers, job titles, as well as details about building layout.
- Assess whether it is important to post information about projects, equipment used or size and composition of facilities housed at locations.

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Camouflage.
- Concealment.
- Counter-online reconnaissance.
- Counter-reconnaissance.
- Counter-satellite reconnaissance.
- Cover.
- Detection.
- Deterrence.
- Intelligence requirements (IR).
- Neutralization.

STUDY QUESTIONS

1. Explain what the difference is between defensive counterreconnaissance and offensive counter-reconnaissance.

2. Discuss how the principles of deterrence and detection might be used defensively in one of these situations (select one): military, national security, law enforcement or business/corporate enterprise.
3. Discuss how the principles of deception and neutralization might be used offensively in one of these situations (select one): military, national security, law enforcement or business/corporate enterprise.

LEARNING ACTIVITY

Using the mud map in Chapter 6 (Figure 6.3) as a hypothetical case study, consider what, if any, counter-reconnaissance techniques you might recommend to:

a) Obscure it from ground reconnaissance.
b) Satellite reconnaissance.

The idea is to brainstorm a number of options that you might use for each situation. These could range from the Gold Standard (large budget and ample resources), down to the very basic 'shoestring' budget. Then consider what the best combination would be to counter both types of reconnaissance (ground and aerial). Explain why you have selected each technique and the likelihood of it achieving success. In doing so, think like an opposition scout. How would you try and penetrate an OPFOR's countermeasures?

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* US Department of Defense, *Dictionary of Military and Associated Terms* (Washington, DC: DoD, 2001, as amended 2008), 484.

Chapter Nine

Some Thoughts on Ethics

The thought of *ethics* and how these values might impact on the role of a scout may seem at first inspection, a little obscure. Surely ethics is for professions that deal with issues of human health; doctors, nurses, psychologists and pharmacists, or professions that deal with education, social work or the financial arena, like auditors and accountants. These professions often have *codes of conduct* that specify how members of the profession should act and treat clients, as well as how they handle sensitive client information. A code of conduct can also be backed by legislative requirements requiring members of a profession to do certain things, or not to do certain things. There are other professions that also have such requirements, but for the purposes of discussing the ethics of scouting, these examples adequately illustrate the point.

> 'A commander often acts on information furnished by scouts. Therefore, scouts must aim at absolute accuracy in reporting enemy activity.'*

So how do ethics impact on the occupation of scouting? Well, to demonstrate this, let us look at the US Marines *Recon Creed*. The *Recon Creed* puts forward a number of values that each scout needs to strive for and abide by. These are not backed by legislation, although behaviour that does not reflect the values set out in the *Creed* will no doubt be addressed through various disciplinary mechanisms within the Corps.

But ironically, it is in the 'striving and abiding' where these standards can become compromised. Why would this be? Surely the *Creed* sets out some

of the highest ethical standards for any person to attain, not only a Recon Marine. These values are inherently 'good,' so how could they be jeopardized?

The answer may lie in the high standards themselves. Under pressure and because of a myriad of personal factors that affect every person on the planet, we may be tempted to 'cut corners' in order to uphold a standard. No one wants to fail. As the *Creed* states, 'To quit, to surrender, to give up, is to fail. To be a Recon Marine is to surpass failure; to overcome, to adapt and to do whatever it takes to complete the mission.' In this context, we are discussing those persons who hold these types of values in high regard. We are not referring to those who will never regard a *Creed* like that of the Recon Marine with the respect it deserves. For that type of person, it is unlikely that any discussion of ethics will overcome their moral malaise unless there is an awakening of their general consideration for humanity.

So when we swear to a value such as, 'Exceeding beyond the limitations set down by others shall be my goal. Sacrificing personal comforts and dedicating myself to the completion of the reconnaissance mission shall be my life,' will require, without question, 'physical fitness, mental attitude and high ethics.' But these are *ideals* that we strive for, and as we are only human, we are susceptible to a spectrum of human flaws that may prevent us from all achieving the ideal. After all, an *ideal* is a state that is by definition, unattainable; it is *ideal*.

Consequently, it may be natural to feel that we cannot let others down, and so may be tempted to take shortcuts to achieve what we may not be able to do, and although this may be well intentioned, this 'corner cutting' has the effect of letting down those we have been entrusted to support. Arguably, cutting corners is as bad a result as if we failed in our mission.

Why is this so? Because mission commanders require scouts to observe and report accurately what they see, not what they think the mission commanders want to hear. A recon team may be tasked to reconnoiter a particular area to look at a certain set of intelligence requirements (IR). They may understand that there is a potential mission ready to engage an OPFOR and all that is required is the information to support the deployment. Reputations and possible future promotion may be riding on getting this data from the recon team. However, it would not only be

unethical to report information that was untrue, it may unnecessarily place lives in harm's way.

> 'Be advised that every time you avoid doing right, you increase your disposition to do wrong.' *Anonymous*

If it is a case of a military scouting mission, the ramifications could be played out on the international political stage. The chances of promotion would be zero after that. If it were a law enforcement scenario, then it could result in a range of civil and criminal charges being brought against those involved, or potentially ignite civil protest and perhaps riots in a worst-case situation. Again, if one was looking for promotion, that dream would evaporate.

Ethics is more than words or Creeds. It is a way of thinking and a set of unending choices we make about doing the right thing and doing it right. It is about acting honestly and responsibly, as if the media were looking over our shoulders all the time, reporting what we do to the 'reasonable person.' Unfortunately, there are no definite answers or absolute rules that could be recited to guide the scout in his or her mission. This may seem strange, especially for men and women who are in military or paramilitary organizations where most things are rule-driven. Nonetheless, this is the nature of ethics, judgments about what is right and wrong. They are relative to the situation and circumstances. All that can be hoped for is to make reasoned decisions that if questioned before a court or tribunal (or in the world's press), you can stand tall and say you are an 'Example for all to emulate.' If you cannot feel secure in that, then perhaps the decision you are about to make is not the best one. It may mean placing others' well being above the comforts of promotion or other rewards of material success. Only *you* will know at the time.

> **THE RECON CREED OF THE US MARINES**
>
> 'Realizing it is my choice and my choice alone to be a Reconnaissance Marine, I accept all challenges involved with this profession. Forever shall I strive to maintain the tremendous reputation of those who went before me.
>
> Exceeding beyond the limitations set down by others shall be my goal. Sacrificing personal comforts and dedicating myself to the completion of the reconnaissance

mission shall be my life. Physical fitness, mental attitude and high ethics – the title of Recon Marine is my honor.

Conquering all obstacles, both large and small, I shall never quit. To quit, to surrender, to give up, is to fail. To be a Recon Marine is to surpass failure; to overcome, to adapt and to do whatever it takes to complete the mission.

On the battlefield, as in all areas of life, I shall stand tall above the competition. Through professional pride, integrity and teamwork, I shall be the example for all Marines to emulate.

Never shall I forget the principles I accepted to become a Recon Marine: honor, perseverance, spirit, and heart.

A Recon Marine can speak without saying a word and achieve what others can only imagine.'*

REVIEW OF KEY WORDS AND PHRASES

The key words and phrases associated with this chapter are listed below. In one or two sentences, demonstrate your understanding of each by writing a short definition or explanation.

- Code of conduct.
- Ethics.
- Ideals.

STUDY QUESTIONS

1. Explain why having a set of ethical standards is important to an occupation such as scouting.
2. Explain why ethics are not set out in a rigid set of rules and why not having clearly stated ethical rules may prove problematic to a scout in the field.
3. Given the lack of clarity around what might be seen by the 'reasonable person' as ethical for any given situation, discuss what a scout might use as a ethical 'compass' to help guide him or her through the decision making process.

LEARNING ACTIVITY

Using the Internet, research codes of conduct, creeds and other documents that espouse high ethical standards for various professions and occupations. Using these as a 'springboard' for ideas, craft a set of ethical standards that

might reflect the type of reconnaissance work you are engaged in, or hope one day to be conducting.

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* US Marine Corps, *Scouting and Patrolling* (Honolulu, Hawaii: University Press of the Pacific, 2004), 3–1.
* 2nd Reconnaissance Battalion, 2nd Reconnaissance Division, *The Recon Creed*, (Camp Lejeune, North Carolina: US Marine Corps, 2013) http://www.2ndmardiv.marines.mil/Units/2ndReconnaissanceBN.aspx (accessed October 31, 2014)

Chapter Ten

Recommended Reading

There are hundreds of texts on the topic of reconnaissance, some good and some marginally useful. If you are interested in perusing the topic further and want to add a few books to your personal professional library that will give you details on specific aspects of reconnaissance, then consider the reading list below. These references will save you time in trying to locate relevant study material. The list will also save you expense as it is a selected bibliography that contains text found beneficial in writing this book (some of which are free, like the military field manuals).

Books

Rex Applegate, *Scouting and Patrolling: Ground Reconnaissance Principles and Training* (Boulder, CO.: Paladin Press, 1980). A classic text on the topic with many illustrations. It was originally written at the end of WWII and although present-day manuals contain some of the topics it covers, the publisher has reprinted it as it contains information not contained in field manuals.

Frederick Russell Burnham, *Scouting on Two Continents* (Garden City, New York: Doubleday, Duran and Co., 1928). This is a first-hand account of the life of one of the world's best scouts. Although this text is close to a hundred years old, the lessons taught and their application to contemporary times is still relevant, and invaluable for anyone wanting to understand what it is to be a scout.

David Henderson, *Field Intelligence: Its Principles and Practice* (Melbourne: Government Printer, 1904). This is a rare book that is likely to be found in library special collections and therefore may only be able to be viewed within the library holding it.

David Henderson, *The Art of Reconnaissance* (London: John Murray, 1911). The first edition of this classic text was published in July 1907 and there was a second edition published in October 1908. This citation refers to the reprint of the second edition.

Jack Kneece, *Ghost Army of World War II* (Gretna, Louisiana: Pelican Publishing Co., 2001). An account of the American 'phantom army' that misled and deceived the Nazi forces during the Second World War. It provides informative details of how German reconnaissance was duped into believing false information about the strength and intentions of Allied Forces.

Hank Prunckun, *Scientific Methods of Inquiry for Intelligence Analysis, Second Edition* (Lanham, MD.: Rowman & Littlefield, 2015). An important reference book on intelligence, intelligence gathering and intelligence analysis. Although it goes into a greater depth than needed for the average scout, it provides important information that sets the context for reconnaissance and its role in the wider picture of secret operations.

Hank Prunckun, *Counterintelligence Theory and Practice* (Lanham, MD.: Rowman & Littlefield, 2012). A comprehensive book on the craft of counterintelligence. It covers the theory behind these secret operations, as well as the practical application of the various techniques involved. It contains important information for protecting the secrecy of reconnaissance missions as well as discussion about the use of deception to help defeat hostile reconnaissance.

Van Ritch, *Rural Surveillance* (Boulder, CO.: Paladin Press, 2003). This is a law enforcement guide for the collection of evidence in rural areas. It goes into some detail about topics relating to operational field craft, but also discusses many other aspects of conducting covert operations in remote locations.

Government Manuals

United States Army, *FM 34-2-1, Tactics, Techniques, and Procedures for Reconnaissance and Surveillance and Intelligence Support to Counterreconnaissance* (Washington, DC: Department of the Army, 1991). An army field manual that provides a description of tactics, techniques and procedures for reconnaissance and surveillance, planning, mission management and reporting. It also provides a description of development of intelligence in order to support counter-reconnaissance operations.

United States Army, *FM 7-92, The Infantry Reconnaissance Platoon and Squad (Airborne, Assault, Light Infantry)* (Washington, DC: Department of the Army, 1992). An army field manual that describes tactics, techniques and procedures for effective battlefield reconnaissance while reducing vulnerabilities.

United States Army Air Force, *FM 1–20, Tactics and Techniques of Air Reconnaissance and Observation* (Washington, DC: War Department, 1942). An historic army field manual that despite its age, still contains relevant information on the basics of air reconnaissance.

United States Marine Corps, *Scouting and Patrolling* (Honolulu, Hawaii: University Press of the Pacific, 2004). A quality reprint of the Fleet Marine Force Manual (FMFM) 6–7 dated April 17, 2000, which supersedes an earlier version dated January 6, 1989.

Notes

1. Dale L. June, *Introduction to Executive Protection: Second Edition* (Boca Raton, FL: CRC Press, 2008), 86.
2. William Morris (editor), *The American Heritage Dictionary of the English Language* (Boston: American Heritage Publishing Co. and Houghton Mifflin Company, 1971), 1,089.
3. Lanai Vasek, 'Boatpeople Rush to Avoid Nauru and PNG,' *The Australian*, August 17, 2012, http://m.theaustralian.com.au/national-affairs/immigration/boatpeople-rush-to-avoid-nauru-and-png/story-fn9hm1gu-1226452574989 (accessed August 1, 2014).
4. See Jim Hunt and Bob Risch, *Warrior: Frank Sturgis – The CIA's #1 Assassin-Spy Who Nearly Killed Castro but was Ambushed by Watergate* (New York: Forge, 2011), 106–109.
5. William Morris (editor), *The American Heritage Dictionary of the English Language* (Boston: American Heritage Publishing Co. and Houghton Mifflin Company, 1971), 1,089.
6. United States Army, *FM 7-92, The Infantry Reconnaissance Platoon and Squad (Airborne, Assault, Light Infantry)*, (Washington, DC: Department of the Army, 1992), 4-1.
7. Confidential source (Special Agent, Australian Federal Police), personal communication, 30 August 2012.
8. Aboriginal Park Ranger 'Leon' (personal communication March 27, 2013) at Mungo National Park, New South Wales, Australia.
9. Hank Prunckun, *Scientific Method of Inquiry for Intelligence Analysis, Second Edition* (Lanham, MD: Rowman & Littlefield, 2015).
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13. Source: Hank Prunckun, *Scientific Method of Inquiry for Intelligence Analysis, Second Edition*, (Lanham, MD: Rowman & Littlefield, 2015), 8.
14. William Morris (editor), *The American Heritage Dictionary of the English Language*, (Boston: American Heritage Publishing Co. and Houghton Mifflin Company, 1971), 1,165.
15. Allen W. Dulles, *The Craft of Intelligence* (Guilford, CT.: The Lyons Press, 2006), 52.
16. H.H.A. Cooper and Lawrence J. Redlinger, *Catching Spies: Principles and Practices of Counterespionage* (Boulder, CO.: Paladin Press, 1988), 264–266.
17. The British spelling of the verb is *reconnoitre*.

18. Francis Gary Powers with Curt Gentry, *Operation Overflight* (New York: Holt, Rinehart and Winston, 1970).
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20. Raymond Friedman, *Principles or Fire Protection Chemistry and Physics*, third edition (Quincy, MA.: Jones and Bartlett Publishers, 1998), 72.
21. Marcus Felson, 'Routine Activity Approach,' in Richard Wortley and Lorraine Mazerolle, editors, *Environmental Criminology and Crime Analysis* (Devon, UK: Willan, 2008), 74–75.
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23. US Department of Defense, *Dictionary of Military and Associated Terms, Joint Publications 1-02* (Washington, DC: Department of Defense, 2008), 44–45.
24. Kevin Burke, 'Civil Reconnaissance: Separating the Insurgent from the Population' (master's thesis, US Naval Postgraduate School, 2007), 3.
25. See, for example, Robert Baer and Dayna Baer, *The Company We Keep* (New York: Crown Publishers, 2011).
26. *Wall Street Journal*, Wednesday 2 July 2014, Vol. XXXII, No. 105 (European Edition).
27. Hank Prunckun, *Scientific Methods of Inquiry for Intelligence Analysis, Second Edition*, (Lanham, MD: Rowman & Littlefield, 2015), 111.
28. Hank Prunckun, *Scientific Methods of Inquiry for Intelligence Analysis, Second Edition*, Lanham MD: Rowman & Littlefield, 2015), 29.
29. Hank Prunckun, *Scientific Methods of Inquiry for Intelligence Analysis, Second Edition*, (Lanham, MD: Rowman & Littlefield, 2015), 142.
30. Hank Prunckun, *Scientific Methods of Inquiry for Intelligence Analysis, Second Edition*, (Lanham, MD: Rowman & Littlefield, 2015), 142; and "Norway Blocks Apple Aerial Photos," *Sky News*, http://www.skynews.com.au/tech/article.aspx?id_896524, (accessed 18 August 2013).
31. For those not conversant with the metric system, a kilometer is approximately 1,093 yards, and 100 kilometers is about 62 miles. See the Appendix at the end of this book for a miles-to-kilometer conversion chart.
32. Acknowledging that in 2006 the International Astronomical Union demoted Pluto from planet status to that of a dwarf planet.
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34. For instance, see Harold Hough, *Satellite Imagery for the Masses: How to Profit from the Satellite Revolution* (Port Townsend, WA: Loompanics Unlimited, 2004).
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41. Hank Prunckun, *Counterintelligence Theory and Practice* (Lanham, MD.: Rowman & Littlefield, 2012), 23–24.

42. Ann Elias, *Camouflage Australia: Art, Nature, Science and War* (Sydney: Sydney University Press, 2011).
43. Hank Prunckun, *Counterintelligence Theory and Practice*, (Lanham, MD.: Rowman & Littlefield, 2012), 198.
44. See, Harold Hough, *Satellite Surveillance* (Port Townsend, WA: Loompanics Unlimited, 1991), 129–142; and Harold Hough, *Satellite Imagery for the Masses* (Port Townsend, WA: Loompanics Unlimited, 2004), 152–157.

Appendix

Miles	*Kilometers*
1	1.60
2	3.21
3	4.82
4	6.43
5	8.04
6	9.65
7	11.26
8	12.87
9	14.48
10	16.09
20	32.18
30	48.28
40	64.37
50	80.46
60	96.56
70	112.65
80	128.74
90	144.84
100	160.90

Conversion Table – Miles to Kilometers

About the Author

Dr Henry (Hank) Prunckun, BSc, MSocSc, PhD, is Associate Professor of Intelligence Analysis at the Australian Graduate School of Policing and Security, Charles Sturt University, Sydney. He is a research methodologist who specializes in the study of transnational crime: espionage, terrorism, drugs and arms trafficking, and cyber-crime. Moreover, he is a graduate of an Australian State Emergency Service reconnaissance course, and has taught reconnaissance and counter-reconnaissance at the Indian National Police Academy, Hyderabad, in relation to that country's Naxalite counterinsurgency.

Dr Prunckun is the author of numerous reviews, articles, chapters and books, including: *Scientific Methods of Inquiry for Intelligence Analysis, Second Edition* (Rowman & Littlefield, 2015); *Intelligence and Private Investigation: Developing Sophisticated Methods for Conducting Inquiries* (Charles C. Thomas, 2013); *Counterintelligence Theory and Practice* (Rowman & Littlefield, 2012); *Handbook of Scientific Methods of Inquiry for Intelligence Analysis* (Scarecrow Press, 2010); *Shadow of Death: An Analytic Bibliography on Political Violence, Terrorism and Low-Intensity Conflict* (Scarecrow Press, 1995); *Special Access Required: A Practitioner's Guide to Law Enforcement Intelligence Literature* (Scarecrow Press, 1990); and *Information Security: A Practical Handbook on Business Counterintelligence* (Charles C. Thomas, 1989).

Prior to his academic posting, Dr Prunckun held a number of government investigation and security positions in the United States and Australia, including various strategic research and tactical intelligence positions

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